GOOGLE STRATEGY TEARDOWN:

Betting the Future on AI, Cloud Services, and (Tamed) Moonshots

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Artificial intelligence is the thread running through all of Google's disparate efforts at innovation, including autonomous vehicles, enterprise cloud, and the new smartphone line.

OCTOBER 20, 2016

Since its 1998 incorporation in a Menlo Park, Calif. garage, Google has become the torchbearer for corporate innovation in the post-dot com era. Its affinity for incubating far-out concepts has manifested in several concrete ways—from its well-known "20% time" policy for its employees' personal projects (which led to the birth of Gmail and AdSense), to its establishment of Google Ventures as a quasi-independent venture arm in 2009, to its moonshot-focused Google X innovation lab, now simply X.

However, in recent years the company has started to shift from its experimental approach, risky R&D, and decentralized company structure.

After taking the helm in 2011, CEO Larry Page (now head of Alphabet) announced Google would put **"more wood behind fewer arrows"**: transitioning from a democratic, bottom-up innovation approach to a more top-down, focused strategy.

Indeed, the "20% time" policy has reportedly been restricted in recent years, **requiring more managerial approval and oversight**.

At the same time, the company has moved beyond its core search and ad business to explore disparate fields from consumer hardware to autos and telecom to healthcare and venture investment.

Last October's Alphabet reorganization was couched as an effort to bring greater structure, transparency, and fiscal accountability to this sprawling web of initiatives. The move coincided with the May hiring of Ruth Porat as CFO, an experienced Morgan Stanley executive with a reputation for financial discipline.

One year on, these moves have already driven clear changes in how Mountain View handles acquisitions and R&D. New equity awards will tie **employees'**

incentives to individual unit performance. At the X lab, head Astro Teller has written of the need to nudge moonshots toward "graduation," company parlance for an eventual life as a scalable team and products within the Alphabet corporate family. In the case of GV, the venture arm has seen its longtime leader leave, and has scaled back both on deals year-to-date and particularly seed deals.

As the company stands at a crossroads, we've used the many tools available in the CB Insights tech market intelligence platform to distill the acquisition, investment, and research/patent activity of units across the Alphabet organization, providing a data-driven view into its strategy for the future. Given the breadth of the company's operations, we will not touch on every initiative and sector, instead focusing on major and recurring themes driving the Googleplex forward, such as:

- **A push into cloud and hardware:** Alphabet's pushing for growth in areas beyond advertising, with R&D, acquisitions, and investments focused on sectors with a proven capacity to become revenue and profit centers, such as premium mobile and smart home hardware, and especially cloud & enterprise services. Apigee, Google's largest acquisition since Nest, was a publicly traded enterprise cloud company.

- **An "AI-first" strategy:** The company is leveraging its AI/machine learning expertise, including those absorbed through its acquisition of DeepMind, to differentiate its products in the sectors above as well as search and advertising, overall consumer web services, and other Alphabet units. Google's new high-end mobile and smart home devices serve as exclusive outlets for some of these services.

- **A focus on AR/VR, autonomous driving, and digital health:** Investments, acquisitions, and patent data point to Mountain View's R&D in areas including autonomous driving, wearables, AI-driven healthcare, and efforts to bring broadband to a broader swath of the global population.

- **Acquisitions have picked up again:** The company made 9 acquisitions in Q3'16, the most since Q3'14, which could signal a resurgence in its M&A appetite given its stated intention to bulk up further in mobile hardware (with the Pixel phone and smart home hub), enterprise cloud offerings, transportation/logistics, VR, and other areas.

- **GV has largely pulled out of the seed market:** GV has mostly gotten out of the game of funding younger startups. Its seed activity has fallen almost 85% on a year-over-year basis, with no new seed deals at all in the first half of 2016.

Disciplining other moonshots: The reining in of spending and a mandate for moonshot units to outline paths towards profitability. That has led to veteran attrition and the restructuring of teams to combat corporate sprawl, as well as the external hiring of industry veterans to nudge moonshots such as Loon and autonomous vehicles towards commercialization.

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A LITTLE BACKGROUND ON CORE GOOGLE

Before we dive into the data behind Alphabet's forward-looking strategy, we must quickly assess its most mature and most profitable (by far) business line: Google search and advertising.

As a reminder, Google now consists of search, mapping, cloud & enterprise, Google-branded consumer hardware and operating systems (Chrome, Android, etc.), and YouTube. All other units, from investment vehicles (GV, Google Capital) to the X arm, are now subsidiaries reporting directly to Alphabet management. We will use the Google moniker when discussing either the company proper or historical pre-Alphabet activities under its banner.

The company outperformed analyst expectations in Q2'16 with surging top- and bottom-line growth. Fueled primarily by Google's core ad business, Alphabet quarterly revenue jumped 21% to $21.5B while profit rose 24%, beating analyst estimates. Driving the strong beat was **a successful transition to mobile platforms**, including new mobile ad formats and better gauging of efficacy.

Though last quarter's results were largely positive, there are secular trends that may cloud the long-term outlook. For one, the share of Google ad revenue coming from its own websites **topped 80% for the first in in Q2'16**, up from 70% in 2011 and 60% in 2006. This means that future ad growth will be more reliant than ever on Google driving traffic to its own sites (such as search results and Google News, etc.), as opposed to network members' sites.

Mobile ads generally are also less lucrative than desktop ads, so Google's success in mobile has been accompanied by a decline in cost-per-click (the average amount advertisers pay when consumers click on their ads on Google) even as volume gains offset some of this. Google's Q2'16 CPC on its own sites was **only 76% of its CPC two years earlier**.

The proliferation of apps and connected devices also presents a challenge, as it's unclear whether Google's search engine will dominate in a world where apps like Facebook and WeChat absorb so much of users' time online, and a new generation of devices like smart home hubs funnel search traffic to would-be competitors (such as searches made directly on Amazon via the Echo smart home device and its Alexa voice-powered assistant).

In fact, Google's share of global digital ad spend **continues to decline**, as both domestic competitors like Facebook and international rivals like Baidu and Alibaba continue to gain ground.

The strength of Google's ad business has long given the company stability, as well as the financial means to fund its moonshots. However, despite Alphabet's vast number of operations, its financial performance and growth prospects remain heavily dependent on Google's original business (advertising accounted for a full **89% of Alphabet's Q2'16 revenue**).

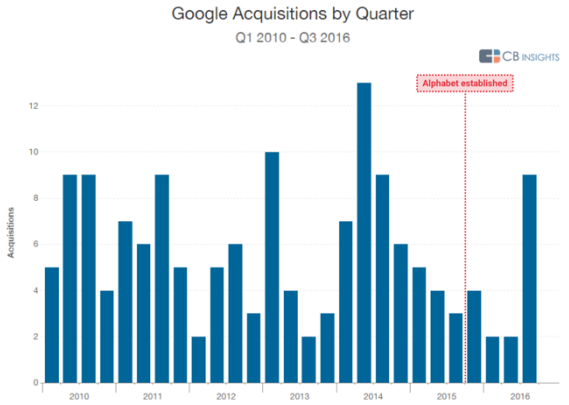
Outperformance in its core business is notable amid turmoil in other units, but Mountain View is keenly aware of the lack of diversity in its revenue streams. As we dig into Alphabet's activities across its subsidiaries, we will see how the search for new avenues for growth has shaped the company's strategy.

ACQUISITIONS

Google has traditionally ranked among the most acquisitive tech corporations, but the pace of its acquisitions slowed both leading up to and following the reorganization under the Alphabet umbrella.

Since 2001, the company has made nearly 200 acquisitions to bring on external talent and expand into new sectors, and in the process coined another tech adage in the form of Larry Page's **"toothbrush test"** for whether an M&A target is worthy. (The target must develop a product that its customers consider indispensable on a daily basis.)

Our **acquisition tracker** includes each acquisition in the steady stream of Mountain View purchases. Alphabet has now acquired 13 companies year-to-date (10/10/16), with three acquisitions last month alone, including the $625M purchase of publicly traded enterprise cloud company **Apigee**. We used the CB Insights Acquirer Analytics tool to track the company's M&A activity since 2010:



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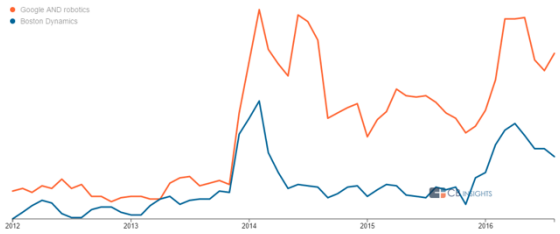
Google has remained a dominant force in tech M&A for much of the decade; activity peaked in 2014 as Google acquired over a dozen companies in the second quarter, ranking **far ahead of other tech giants** in acquisitions in that year. However, the company's acquisition pace slowed considerably leading up to the Alphabet restructuring, and decreased markedly in the first half of 2016. This most recent quarter has seen a resurgence in activity, though it remains to be seen whether that will be a temporary blip, or a signal that Mountain View feels comfortable maintaining the renewed pace under Alphabet.

To date in Q4'16, Alphabet has only acquired **Famebit**, a platform that helps brands connect with video creators on YouTube.

Aside from a new focus on fiscal restraint, lackluster results from marquee acquisitions earlier in the decade may have given the company pause. The company's rapid acquisition of at least 7 unique robotics companies—**Schaft**, **Industrial Perception**, **Meka Robotics**, **Redwood Robotics**, **Bot & Dolly**, **Holomni**, and most notably **Boston Dynamics**—triggered a peak in hype in 2014 (as shown by our Trends tool, below), but those companies never coalesced into a productive robotics unit.



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Former Android head Andy Rubin led the robotics push, but Rubin departed the company in October 2014 to found hardware startup incubator Playground Global. The loss of the visionary figure likely held back his robotics division, named Replicant, from ever truly becoming a cohesive unit under either Google or Alphabet.

Instead, the Replicant companies came directly into management's crosshairs following Alphabet's creation, as the new company took a hard look at the revenue-generating potential of its various units. Though subsidiaries like Boston Dynamics were a hit on YouTube, the long road to commercialization led to the unit being **shopped for sale** in early 2015 (with a buyer still yet to emerge).

Most recently, Google's significant 2014 commitments to the smart home with **Revolv**, **Dropcam** ($555M), and **Nest** ($3.2B, its largest startup purchase to date) have also been troubled by allegations of mismanagement and employee attrition. The tensions at Nest came to a public head with the departure of Nest co-founder and CEO Tony Fadell in June. The run-up to Fadell's resignation saw repeated mentions of friction among smart home leadership, most notably a Medium post from **Dropcam founder Greg Duffy** (whose Dropcam team was folded into the Nest smart home division):

"It was my mistake to sell… There is a lot that I could say about my extreme differences on management style with the current leadership at Nest."

The troubles at Nest can be read as a failure of the old structure to properly discipline its various operating units and harmonize goals and culture across the Googleplex, even as the company expanded into new markets and product lines.

In fact, the Nest division (now a standalone Alphabet unit) was sidelined from the company's new smart home hardware effort, Google Home, just launched at an October 4, 2016 event. As Alphabet's de facto smart home unit, Nest might have seemed the natural candidate to build a challenger to Amazon's successful Echo device. However, the clear threat to the company's principal search business coming from Amazon's device, and the increasing competition with Amazon as a whole, may have led Google to conclude **it had to develop Home within the core of the company, with direct supervision from Google's executive suite.**

Moreover, such a product demanded close integration with Google's core search and virtual assistant services. Nest, at arm's length from core Google, would have had more trouble crossing interdepartmental borders and winning consensus to achieve this.

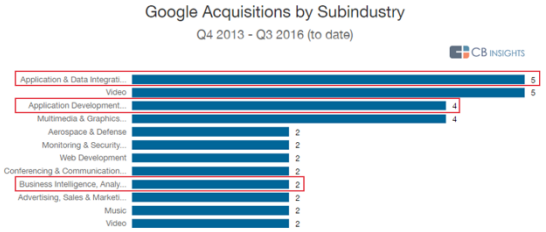
The new unitized Alphabet structure could be conducive to more successful M&A and integration of disparate businesses. The various divisions under Alphabet will be able to lobby for acquisitions aligned with their strategic interests and roadmaps, but also face a

clearer organizational structure leading to Alphabet's executive suite, as well as a new mandate for less speculative bets.

Though its robotics and smart home investments have become cautionary tales, Google's acquisitions in many other fields have produced more unambiguously positive results. **DeepMind**, another 2014 purchase valued somewhere between $500M and $600M, has cemented Google's reputation in AI research with its high-profile AlphaGo and **WaveNet projects** and its tech has already been applied in areas from Google's data centers to its translation tools.

Beyond the smart home, Mountain View's intensifying competition with Amazon has also led to a spate of acquisitions in cloud and enterprise services, as well as a different strategic approach. Google proper has made bolstering its cloud platform a top priority, since it has traditionally lagged Amazon's AWS and Microsoft's Azure in this area (despite recently winning strategic cloud clients, including **Apple and Spotify** in early 2016).

Google is also relying heavily upon acquisitions in this area to supplement internal R&D and bolt value-added services on top of its platform. In particular, CEO Sundar Pichai has said that the company is aiming to compete with **robust, developer-friendly services**, as opposed to providing sheer scale. Our acquirer analytics data highlights this effort:



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A prime example is Google's September 2016 acquisition of **Api.ai**, a startup helping developers build conversational intelligence interfaces. This meshes nicely with artificial intelligence, the other pillar of Google's differentiation strategy (discussed in greater detail within the **industries section**).

Its other purchases in this area range from **Stackdriver**, **Appurify**, **Firebase**, and **Zync Render** in 2014 to its acquisitions of Apigee and **Orbitera** within the past two months. Indeed, over half of its 2016 acquisitions to date involve enterprise

applications or B2B cloud services. Many of these have come after Recode's March report that Google **was most actively hunting** for targets in the enterprise cloud arena.

"Over the past year, according to someone who recently left Google, those inbound [acquisition] requests have come most frequently from one unit: Enterprise."

With its cloud push, Google has thus far focused on multiple targets serving the mid-market and aimed at adding a variety of enterprise capabilities, **as opposed to a multi-billion blockbuster acquisition** in the vein of Nest. Its $100M purchase of billing service Orbitera is emblematic of this catch-up strategy, as well as its support of a **flexible, "multi-cloud" world**, where large enterprises increasingly rely on multiple vendors.

It's also worth noting that compared to leading-indicator bets in promising but unproven sectors (e.g., autonomous cars and robotics), Alphabet's string of cloud and enterprise acquisitions come in a mature sector with obvious financial opportunity.

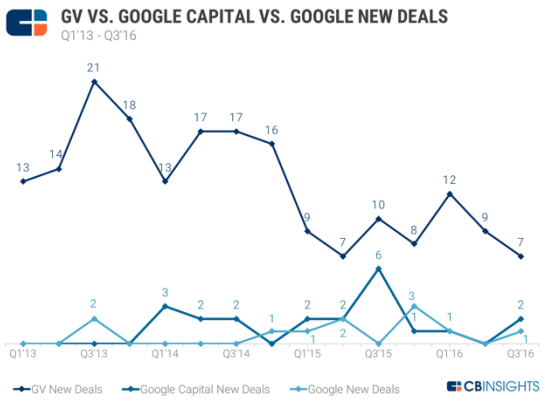
Alphabet's June acquisition of **Webpass** also comes from the mature field of telecommunications. Alphabet's Access & Energy unit, which encompasses Fiber, has already announced plans to leverage Webpass's wireless technology to reduce the capital expenses and deployment times associated with Fiber's costly expansion. In this context, Webpass appears to be another immediate-impact acquisition to reduce losses and drive profitability.

Admittedly, it has been a short year since the birth of Alphabet, but the data thus far reflects the new organization's attempt to balance moonshots with fiscal responsibility and clear paths to revenue.

INVESTMENTS

Alphabet's investment activity is closely watched by competitors and industry observers alike. A few are made directly by Google subsidiaries or divisions. (DeepMind, for example, has invested directly in telemedicine startup **Babylon**.) But the majority are made by Alphabet's two investment arms: the earlier-stage focused GV (formerly Google Ventures) and expansion-stage-oriented Google Capital.

These dedicated investment vehicles have always emphasized their strategic independence from Google proper. Last September's restructuring formalized this policy, with GV and Google Capital becoming distinct operating units under the new holding company. (But they do share common oversight in David Drummond, Alphabet's SVP of corporate development, who also oversees the corporation's M&A.) We isolated their activity accordingly, though some common themes still emerge upon closer analysis.



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As the chart above illustrates, the investment activity of these three units has fluctuated of late. GV's new deal activity was already on the decline prior to Alphabet's formal announcement, while new growth investments through Google Capital and direct strategic investments from Google have both ticked upwards in recent years.

Google

Beginning with Google proper, the company's most prominent strategic investments include several mega-deals to companies in "frontier" areas such as augmented reality, space transportation, and exploration. It has led a $542M round to stealthy augmented reality outfit **Magic Leap** in October 2014, as well as **SpaceX**'s $1B Series D in January 2015. Sources indicated that Google put up **nearly $900M of the latter deal**, for a sizable 7.5% stake in the company.

The financial scale of these commitments underscores the strategic weight Mountain View is placing upon these fields. AR/VR is a central pillar of Google's forward-looking vision for computing. Its Magic Leap deal is a further diversification beyond various internal efforts (including the new consumer-ready Daydream mobile VR

headset announced at the October 2016 event, along with older efforts such as Cardboard, Glass, and Tango).

Meanwhile, Google's hefty SpaceX investment aligns with broader Alphabet moonshots to improve geospatial data (Terra Bella, formerly Skybox Imaging) and drive global internet connectivity (Access and Energy, Project Loon, etc.). Cheap and reliable satellite launches will be a boon to both, and SpaceX head Elon Musk has also expressed like-minded ambitions to build a communications satellite network. Google's direct stake in satellite services company O3b Networks—though O3b was acquired for $1.4B by European satellite communications company SES—is also thematically linked to these initiatives.

Besides strategic investments, in April 2016 Google also established Area 120, an in-house startup incubator for entrepreneurial employees. The move was partly a defensive one to counter the outflow of talent to Valley startups. The incubator's name also references the less available 20% time, which, like other Google traditions, has evolved into a formalized, clearly defined program.

GV

Alphabet's venture capital outfit has become a prominent player in the VC ecosystem since its founding in 2009, consistently ranking as one of the most active CVCs. We've previously focused on GV in our comprehensive investor teardown.

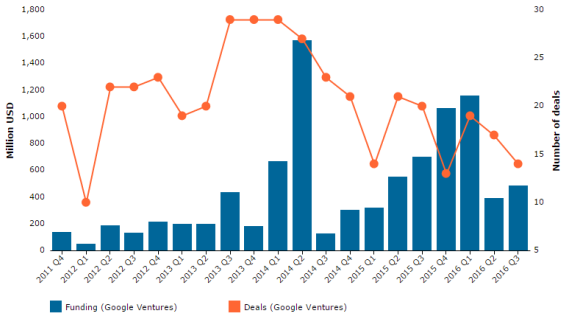
The elephant in the room is that GV founder and head Bill Maris departed the firm in early August. Anonymous sources suggested the Alphabet reorganization may have played a part (under Maris, GV has been known for its decision-making autonomy). However, the parting was publicly amicable on both sides, with Maris directly stating as such:

> *"I'm leaving because everything is great… It has nothing to do with Alphabet. Because the change to Alphabet had little impact with us at all. We've been independent since day one."*

Nevertheless, one can see that post-Alphabet, the loss of foundational figures is a theme that will resurface across our examination of the company's other units.

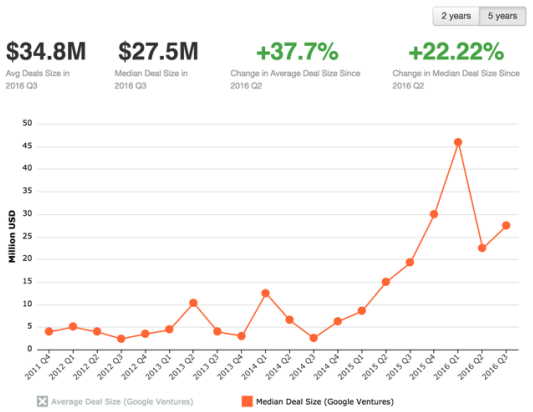
Breaking down overall deal activity with CB Insight's Investor Analytics tool, we can see that GV's pace has

been trending downwards since a peak from late 2013 to early 2014, which saw nearly 30 total deals per quarter (the number of deals are shown with the orange line). This aligns with GV's declining new deal activity that we saw earlier.



Full version appendix e

GV was founded with a $100M capital commitment in 2009, which has since swelled to **$500M annually**. As GV's financial resources have grown, it has increasingly participated in larger financings, like **Uber**'s $1.2B Series D in 2014 and **Jet.com**'s $500M Series B in 2015. Our Investor Analytics tool highlights this growth in median deal size; Q1'16 saw GV jumping into particularly large deals, including a $400M Series C to **Oscar** ($400M) in February. Overall, the data shows a sharp rise from the single-digit medians typical of pre-2015 GV.



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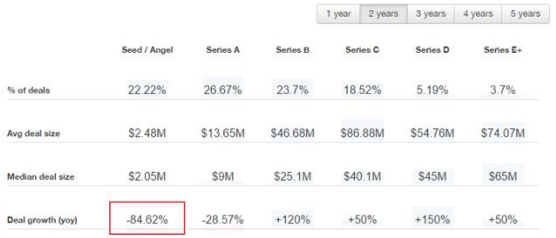
The decline in deal pace and rise in investment size coincides with GV's near-total withdrawal from the seed market, once its bread-and-butter. Over the past two years, its seed activity has fallen almost 85% on a year-over-year basis, with no new seed deals at all in the first half of 2016.



	Seed / Angel	Series A	Series B	Series C	Series D	Series E+
% of deals	22.22%	26.67%	23.7%	18.52%	5.19%	3.7%
Avg deal size	$2.48M	$13.65M	$46.68M	$86.88M	$54.76M	$74.07M
Median deal size	$2.05M	$9M	$25.1M	$40.1M	$45M	$65M
Deal growth (yoy)	-84.62%	-28.57%	+120%	+50%	+150%	+50%

Full version appendix g

Bill Maris acknowledged this pullback as early as last December, citing less opportunity in the seed space. And **in Maris's exit interview** this August, he also pointed towards the scale of today's GV as a limiting factor:

"When you have a $2.5 billion fund, a seed investment has to take time to move the needle."

Meanwhile, GV's geographic focus has been more static, sticking to US-centric dealmaking. The firm had launched a $125M fund in 2014 dedicated to European investing, with 5 partners to lead the unit. However, post-Alphabet the fund was **scrapped in December 2015** and absorbed back into the global vehicle with GV's rebranding.

In roughly a year and a half, the European arm made less than 10 investments, with its largest deal being a $60M Series C to flash hotel booking site **Secret Escapes** (which it co-led with Octopus Investments).

Full version appendix h

In terms of sector, GV has always stressed the firm's "independence" from the parent company's strategic interests, and its ability to ostensibly focus on financial returns and high-risk, but potentially high-reward moonshot-type efforts that are the classic province of traditional venture. Maris himself personified the Google old guard's affinity for moonshots. Healthcare is a prominent example in this regard, as Maris himself stated **in a March 2015 profile**:

"If you ask me today, is it possible to live to be 500? The answer is yes … If given the choice between making a lot of money or finding a way to make people live longer, what do you choose?"

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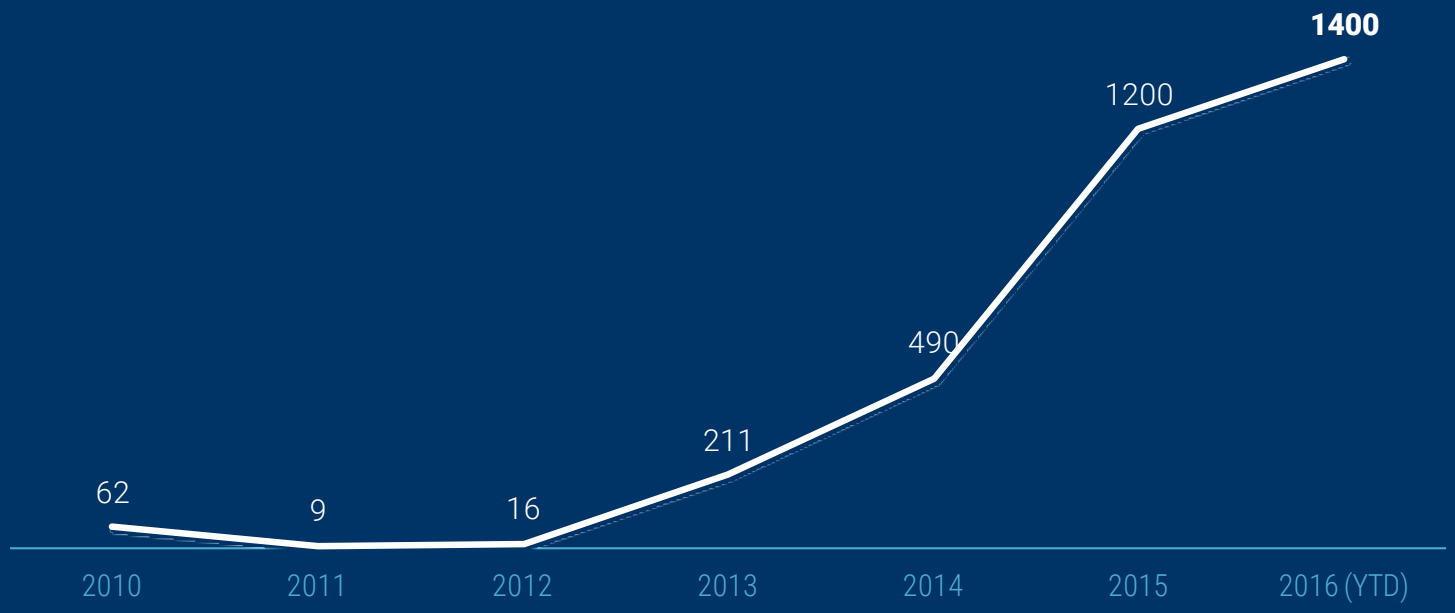

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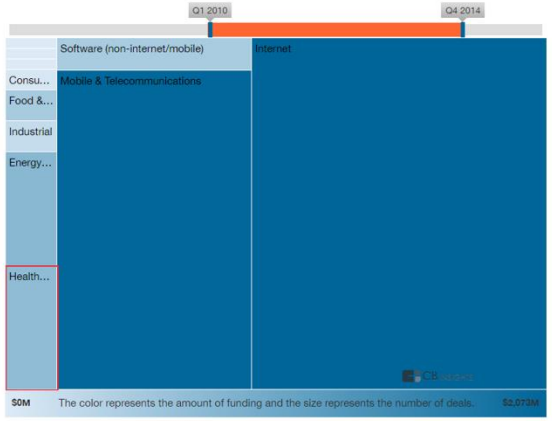
Indeed, GV has heavily committed to financing healthcare startups. These range from digital health companies (**Flatiron Health**) to providers (**One Medical**), as well as startups in fields like genomics (**Editas**, **Foundation Medicine**, **23andMe**). In recent years, the firm has devoted a growing share of its deals to such companies.

By March 2015, Maris disclosed in a Bloomberg interview that **36% of the fund's assets** were invested in life sciences, up from 6% in 2013.



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These investments parallel the efforts of other Alphabet subsidiaries Verily and Calico in transformative health research. These links are not surprising given Bill Maris's life sciences background; in fact, the former biotech portfolio manager was directly involved in the conception of Calico, Alphabet's mysterious anti-aging subsidiary.

At CB Insights, we've conducted in-depth research into GV's other areas of interest, spanning everything from AR/VR and drones to fintech, cybersecurity, and AI. Naturally, the breadth of both GV's portfolio combined with Alphabet's dizzying array of operations has led to substantial overlap. At least half a dozen GV portfolio companies were eventually acquired by Mountain View, most notably Nest in 2014.

On the other hand, Uber has suddenly become an example of the potential for strategic dissonance between a GV investment and Alphabet itself. Competitive pressure has risen as Uber has made serious moves to build out its own autonomous vehicles, while Google has begun leveraging driving app Waze (acquired in 2013) to explore the ride-sharing market through a new car-pooling feature. Though still in its early stages, this ride-sharing service might grow to rival UberPool.

In response, Uber began shutting out Alphabet exec and top dealmaker David Drummond from board meetings, leading him to step down. The ride-hailing company has also shielded information from board observer David Krane, the longtime GV partner tapped as Bill Maris' successor.

With a number of $1B+ exits under his stewardship, Maris now leaves GV with both a strong record and uncertain future. As much of the firm's strategy was rooted in its leader, it remains to be seen how GV's investment style and philosophy will change under David Krane.

GV's Top Exits

Company	Valuation at time of exit	GV Stage of Entry	Year
Jet.com	$3.3B	Convertible Note (Post Series A)	2016
Nest Labs	$3.2B	Series C	2014
HomeAway	$2.15B	Series E	2011
OnDeck Capital	$1.32B	Series D	2014
Climate Corp	$1B	Series B	2013
Hubspot	$759M	Series D	2014
SilverSpring Networks	$754M	Series D	2013
Editas Medicine	$571M	Series B	2016
Foundation Medicine	$489M	Series A	2013

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Google Capital

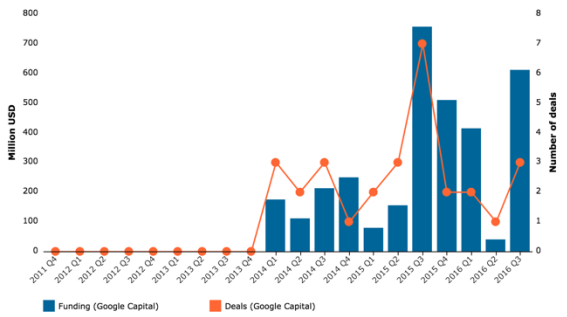
Google Capital is the adolescent of the Alphabet investment family, founded in 2013. As a growth equity fund, the investment arm obviously differs from its elder sibling with its focus on later-stage commitments. Its investment target is said to be $300M annually, a healthy sum that nevertheless lags that of the senior GV.

As mentioned, Google Capital has also presented itself as a returns-based (rather than strategic) corporate investor. However, the growth fund does leverage the engineering expertise,

recruiting infrastructure, and general cachet of its Googleplex mothership as key selling points. The sister firm promises some of the same access in this regard. Edward Kim, CTO of portfolio company **Gusto**, **singled out the structure for praise**:

"They really have carte blanche within Google to find that one person and have that one person solve our problems. They actually bring a lot more to the table other than money."

Since its formation, Google Capital has generally maintained a lower profile than GV. The investment arm has typically committed to 1-3 deals per quarter, with a noticeable spike in Q3'15:



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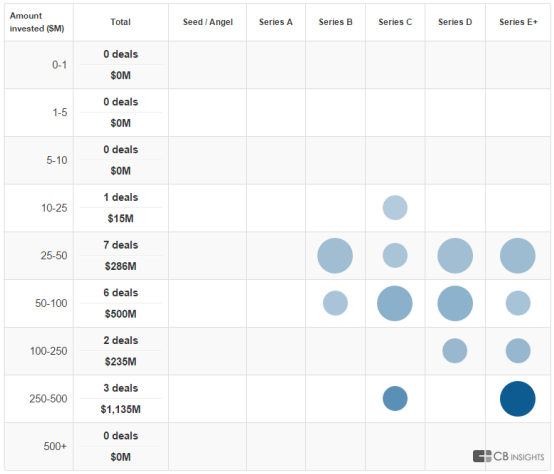
Google Capital most often participates in rounds between $25M and $100M, though it is not averse to larger deals, such as **CloudFlare**'s Series D ($110M), **FanDuel**'s Series E ($275M), or **Oscar**'s Series C ($400M).



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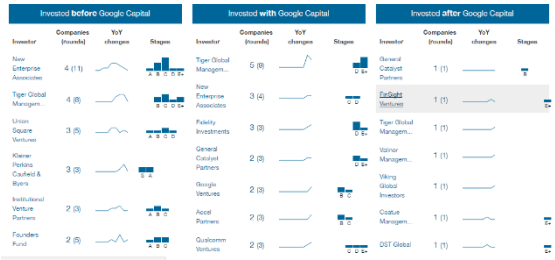
The fund's investment syndicate reflects a general pattern of co-investing with and following leading Silicon Valley firms, as well as **notable hedge fund and mutual fund tech investors** in Tiger Global and Fidelity.

GV rarely invests ahead of Google Capital. The firm does appear further down Google Capital's list of co-investors, but this may be more by coincidence of chasing top deals than anything else. However, if GV's move away from the early-stage market holds, the two investment units might see increasing overlap moving forward.



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The fund's most unique deal of late was its first public market investment in Care.com. Earlier this June, Google Capital announced a $46.35M investment in the care services company, which had been publicly traded since January 2014. This transaction means the investment unit is now straddling private and public markets, the same territory as some of its mutual and hedge fund co-investors, with Google Capital partner Laela Sturdy remarking on the fund's agnostic stance toward targets' status as publicly traded or private:

> *"Care.com exemplifies the kind of company that we want to invest in. We've been focused on growth-stage companies, and really our only criteria is their having Google-sized aspirations."*

It will be interesting to see whether Google Capital will pursue more PIPE (private investment in public equity) deals going forward, or if it will stick to traditional private growth equity investments.

PATENT DATA ANALYSIS

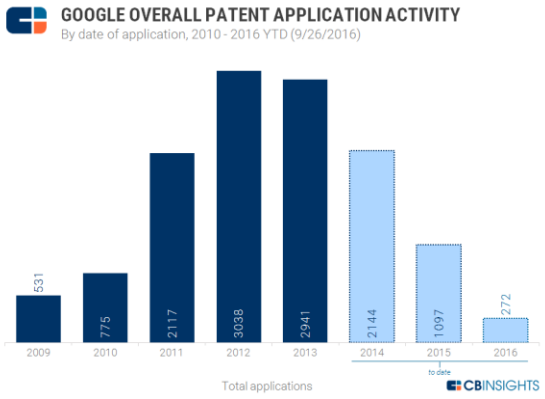
Using CB Insights patent data, we've also sifted through trends on the company's research activity. This analysis comes with a few caveats, primarily that the patent filing process involves a significant time lag before the publishing of applications. This delay can range from several months to over two years. We also focused on Google proper for the purposes of this analysis, which would exclude patents absorbed through external acquisitions.

Also worth noting is Google's historical stance on patents. In the past, company executives including Larry Page and

Sergey Brin themselves had opposed excessive patenting as a threat to the innovative spirit of Silicon Valley. When Steve Jobs released the first iPhone, Google had just 38 patents to its name in all. In 2011, Google SVP General Counsel Kent Walker **outlined the company's general distaste** for the patent system and its desire to see reform:

"A patent isn't innovation. It's the right to block someone else from innovating."

However, as the threat of smartphone litigation intensified in the early 2010s, Google was forced to reverse its stance. It purchased Motorola Mobility in 2012 for $12.5B, the company's largest acquisition to date, adding a wealth of handset patents to its growing IP arsenal. Google itself also began submitting patent applications at a blistering pace.



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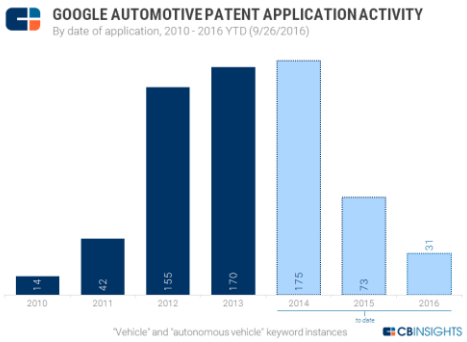
We also mined each year's applications to tease out recurring keywords from the patent abstracts, using a frequency weighting scheme to surface words and phrases. Note that records prior to 2014 are likely complete, but analysis for the most recent years only includes applications published to date.

The keyword data highlights patent activity related to several of Google's bleeding edge product initiatives. Mountain View's patents highlight the emergence of its Glass eyeglass computing device and other wearable research. "Balloon" also makes an appearance in 2014 and tops the list in 2016 to date, as development of Project Loon's balloon-powered internet network continues.

2010	2011	2012	2013	2014	2015	2016 YTD
document	image	image	image	image	**glasses**	**balloon**
query	search	search	search	**vehicle**	image	image
search	document	document	item	item	device	**vehicle**
location	query	item	query	video	application	search
result	item	video	application	application	module	item
image	application	query	location	sensor	video	word
video	message	application	**vehicle**	message	search	application
content	object	content	video	search	query	video
resource	page	**vehicle**	content item	content item	item	hotword
search result	search result	network	content	content	network	wireless
score	video	result	entity	location	**vehicle**	action
model	result	object	layer	**wearable display**	content	chunk
message	content	data	document	display device	mesh network	portion
server	resource	entity	object	data	content item	point
item	data	search result	result	module	display device	content item
application	model	location	message	device	event	command
advertisement	language	device	input	event	location	camera
file	mobile device	message	event	network	computing device	signal
conversation	location	resource	search result	**balloon**	power	user device
client	module	module	data	object	map	location

Full version appendix p

The rising frequency of "vehicle" also reflects Google's concerted efforts in the self-driving vehicle space, where it has been expanding its test fleet and searching for automakers to partner with. In fact, applications with automotive keywords in them surged in 2012 and continued to increase in more recent years, including 2014 where the patent data is perhaps incomplete and so may reveal even more automotive applications as these documents are made public.



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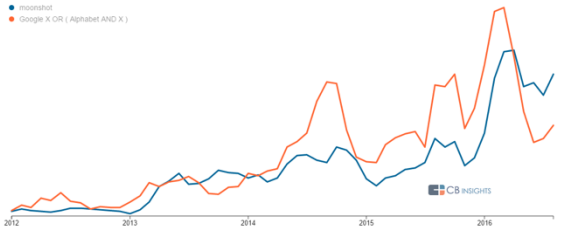
Many of these patent-generating moonshots, of course, including the self-driving car project, have been run out of Google's X lab. Since its founding in 2010, the X lab has tried to succeed as a cutting-edge corporate research arm where others like PARC and Bell Labs eventually failed for their parent companies (at least financially).

As shown by our Trends tool, which mines millions of media articles for insight into tech trends, the term "moonshot" for a time closely tracked the popularity of the term "Google X." In other words, Google's lab has come to be inextricably related to the concept of a moonshot but, like traditional operators of corporate innovation labs, Alphabet is no longer eschewing the patent system.



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In the next section, we'll take a closer look at some of Google's priority projects and how they fit into Alphabet's strategies for specific industries.

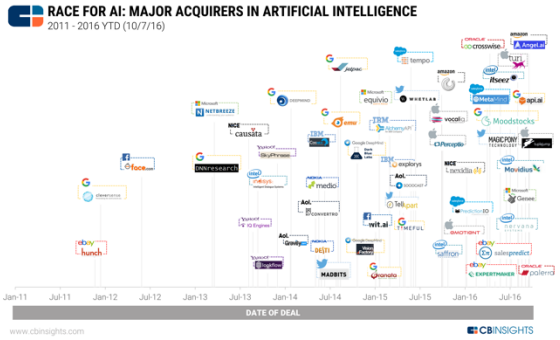
ALPHABET INITIATIVES BY SECTOR

Much like its investment arms, Alphabet's other subsidiaries (including Google itself) operate across a laundry list of disparate sectors. Here, we've grouped Alphabet's activities by focus areas and dug into their programs within each. Again, what follows is not a

comprehensive listing of all the company's many initiatives, but rather a consolidated overview of its current fields of interest.

Artificial intelligence

In a keynote presentation in October 2016 to launch its new high-end Pixel smartphones, Google CEO Sundar Pichai said the world is moving from a "mobile-first" reality to an "AI-first" paradigm. Google is intimately linked with the trendy field of AI, and has been highly acquisitive within the space, ranking as **the most active corporate buyer of AI companies**.



Full version appendix s

Internally, Google Brain exemplifies the successful graduation of an X project. Last year **Astro Teller described Google Brain** as "producing in value for Google something comparable to the total costs of Google X," developing TensorFlow and improving core capabilities from translation to voice search. Sundar Pichai also repeatedly emphasized machine learning to investors **during Alphabet's Q2'16 earnings call**:

"Machine learning is the engine that will drive our future … more than 100 teams are currently using machine learning at Google, from Street View to Gmail to Voice Search and more."

Beyond concrete products, a DeepMind-derived system has even helped to realize **cost and environmental savings** at Google's power-hungry data centers, improving power usage efficiency by 15%.

As Google is applying machine intelligence and learning across its businesses, we will similarly thread insights on its AI activities across the relevant focus areas below.

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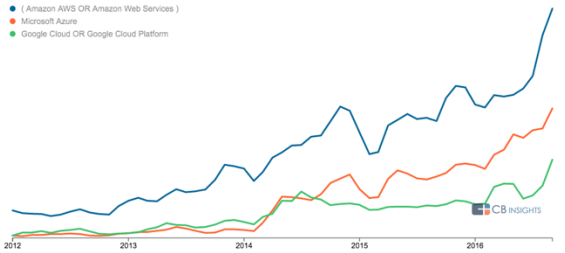
Cloud & enterprise

Google's cloud and enterprise services have rapidly ascended the company's list of priorities, as borne out by its acquisition spree. Pushing further into the lucrative cloud services market is a logical extension of Alphabet's emphasis on opportunities with more immediate financial upside (as of last quarter, Amazon's AWS division alone generated **nearly $10B** in trailing 12-month revenue).

Immediately following Alphabet's formation, Google **tapped former VMWare CEO Diane Greene** to head this drive as SVP of Google Cloud Enterprise, a new unit encompassing Google for Work, Cloud Platform (Google's answer to AWS), and Google Apps. Google has begun repositioning its branding accordingly, with **Google For Work rebranding as G Suite** in September 2016. Hangouts and the unloved Google+ network are also being pivoted towards enterprise users.

We've seen that Google is acquiring and building numerous developer-friendly services to differentiate its platform. However, as with many of its efforts, Google is also **leveraging its machine learning expertise** here to gain a leg up on entrenched rivals.

Google Brain and the company's AI acquisitions have been instrumental in pushing these advances, while also serving double duty to remind casual observers of Mountain View's perceived leadership in the AI space. However, as our Trends analysis below shows, Google still lags behind Microsoft Azure and AWS in terms of media buzz regarding its cloud products.



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Though Google remains behind Amazon, Microsoft, and **even IBM**, early returns have been positive. Google's "other revenues" (which includes Cloud as well as licensing fees, hardware, and other non-ad businesses under Google proper) notched a Q2'16 figure of $2.2B on 33% year-over-year growth. As company executives were quick to note, cloud services were the primary driver of this increase and will remain a cornerstone of Google's strategy to find new avenues for growth.

Consumer hardware & platforms

We've touched on this already, but Alphabet's consumer-facing arms have struggled to balance their penchant for radical projects with financial pragmatism. Nest's recent turmoil has been well-documented both here and elsewhere, but other units are facing headwinds of their own.

While X was spun out of Google, the Advanced Technology and Projects (ATAP) skunkworks focused on **"epic shit"** remained integrated with the company proper. However, like other divisions, the consumer-focused skunkworks also suffered from the loss of its foundational leader this year; founder and former DARPA director Regina Dugan was poached by Facebook in April.

Google has since brought ex-Motorola president Rick Osterloh back on board to head yet another reshuffling, bringing together disparate consumer teams such as ATAP, Chromecast, Nexus, Pixel smartphones, and Glass (the latter formerly under Tony Fadell's purview). The new hardware division recently shelved Project Ara, the once-hyped modular smartphone in development since 2013.

Google has doubled down on its own branded handset hardware lines Nexus and Pixel, with the latter due to **supplant the former**, and has done so supported by formal distribution agreements with major carriers. Google's consumer devices now span various smartphones, tablets, laptops, and a **reported hybrid device** running Andromeda, a unified Android and Chrome OS. The company continues to lean heavily on a rotating cast of manufacturing partners (Samsung, HTC, Huawei, etc.) to produce its devices.

Notably, Google's just-announced Pixel line dispenses the branding of manufacturers altogether, relegating partner HTC into a contract manufacturer a la Foxconn (which reportedly **led Huawei to back out** of the project). The new phones, along with Home and Daydream, were announced at the company's previously mentioned "Made by Google" event in October.

The product blitz set the tone for Osterloh's new hardware division, with the Google-centric branding suggesting that the company would somewhat mimic Microsoft's Surface line, moving closer to Apple's model with oversight of both hardware design and software services. The premium pricing of the new Pixel devices aligns precisely with the pricing of Apple's iPhone 7 lineup; here again, Google is now chasing a piece of a high-margin pie in a mature industry.

Google is also looking to the future with conversational intelligence platforms, from messaging via Allo to the smart home. Additionally, the new Pixel smartphones have exclusive built-in features tied to AI, including the new virtual Google Assistant as well as unlimited photo and video storage for Pixel owners. At least for now, Google is reserving its new voice Assistant exclusively for its branded Pixel and Home devices (Assistant is available as a chatbot though Allo, but without voice integration).

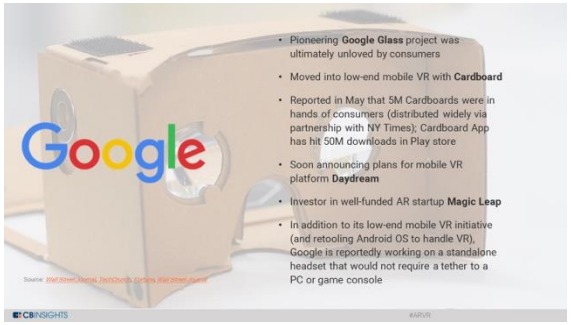
Google has already been utilizing AI to differentiate its consumer cloud products, such as its Photos product which features natural language searches and automatic face and object recognition.

In both hardware and messaging, Google is arriving late to the party, but these moves are vital for Mountain View to defend both its reputation for AI expertise and centrality as a search platform. Each query handled through an Alexa- or Siri-driven device threatens the foundation of Google's current revenue model. Even if Google does succeed here, though, a voice-centric search landscape might still upend the traditional web search-ad display paradigm that it has depended on for over a decade.

At the same time, if Google can differentiate its devices and services through the quality of its AI, it will have an opportunity to create new, potentially high-margin business lines even as it strengthens its hand against Apple and Amazon by carving out market share.

AR/VR

Alphabet's AR/VR strategy has, in classic fashion, involved multiple projects running in parallel. The company's plays range from budget VR (Cardboard) to AR (Glass) hardware to both VR (Daydream) and AR (Tango) platforms, as well as its aforementioned Magic Leap stake. We've examined Google and other tech corporates' approaches in our **Augmented & Virtual Reality research briefing**. The Daydream headset is interesting from a product innovation point of view, as it is the first headset to be made from fabric as opposed to a clunky set of plastic goggles, a design tailored towards mass-market consumers new to the VR concept.



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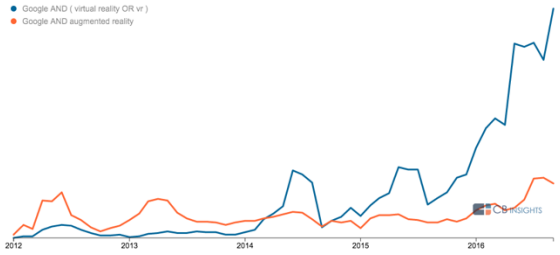
In fact, the chatter around Google and AR/VR has increasingly been tied to VR and not AR, which is not surprising given the fact that its AR wearable product Google Glass flopped, and that Daydream has now become the company's standard bearer in the category.



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Telecommunications & energy

Alphabet has also funneled billions to improve internet accessibility worldwide across external investments (SpaceX, O3b Networks), acquisitions (Titan Aerospace, now Project Skybender), and a number of internal projects. What began as an experiment with Google Fiber has morphed into an attack on traditional telecom providers in certain markets, providing gigabit internet and television service to over a half-dozen metropolitan areas.

However, Fiber has grappled with the costs of deploying a fiber-optic network for some time, not to mention regulatory and legal challenges from incumbents. (Fiber has been cited as the largest single expense in Alphabet's "Other Bets," the conglomerate's umbrella term for the financial reporting of its moonshots.) Where capex once flowed freely, Fiber is now inviting of post-Alphabet financial scrutiny; highlighted by August reports of strict demands directly from executive leadership:

"Alphabet CEO Larry Page [demanded Fiber] to reduce customer acquisition costs to one tenth their current level while asking Fiber chief Craig Barratt to

cut the unit's workforce in half, from 1,000 people to 500."

As we noted above, the Webpass acquisition appears to be a salve that will go directly towards staunching these losses.

Other initiatives include Google's Project Fi **mobile virtual network operator** (MVNO), which the company cites as an "experiment" and motivator for incumbent carriers to improve (much in the original vein of Fiber). An MVNO, in essence, buys bandwidth from wireless carriers and markets cell services under its own brand and with its own pricing and support schemes.

In this sense, Fi is already succeeding, with Comcast announcing plans to launch a similar MVNO in 2017.

However, Fi has already brought on US Cellular and Three to complement launch partners T-Mobile and Sprint, and Google Fiber's shift towards wireless technologies may also lead to some synergies between the services.

Projects Link, Skybender, and Loon are targeting wholly different demographics in remote areas and emerging markets, but they are clearly extensions of the same universal-broadband-access philosophy. Like other X units, Project Loon recently looked outside the organization for veteran industry leadership, **bringing on Tom Moore of WildBlue** to nudge the project towards commercialization. Loon is yet another project utilizing Google's machine learning prowess, employing algorithms to **optimize the positioning and navigation** of its balloons.

Were any of these moonshots to "graduate" from X, it would be easy to envision them coalescing under Alphabet's Access & Energy banner. The A&E unit has been **rumored to be slated for a rebrand**, but still includes Alphabet's energy efforts for the time being. Project Sunroof is one such initiative, and the **Makani** airborne wind turbines (acquired in 2013) would be another natural candidate if successful.

Transportation & logistics

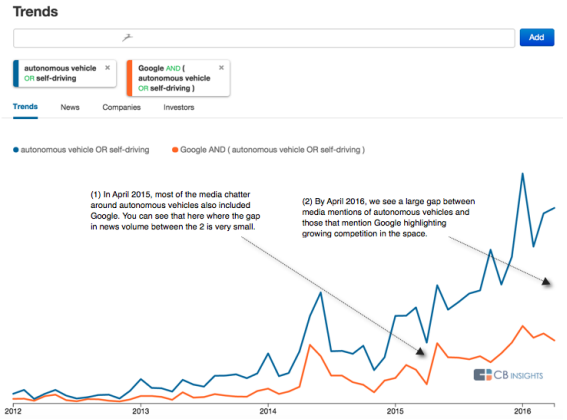
The Google Self-Driving Car Project predates the 2010 formation of Google X; its tenure and public visibility has made it a de facto banner-carrier for the division. The company has invested accordingly, with a rumored **$10B earmarked for the long-term program**.

Just prior to the Alphabet reorg, the project hired its own industry veteran, John Krafcik of Hyundai America and

TrueCar. The move was widely seen as a push to formalize the half-decade vehicle effort as a standalone unit, which Astro Teller described as "in the middle of graduating from X" **in an April interview**. (Despite X's separation from Google proper, the car project has retained its original branding for now.)

Indeed, the Google car project has made strides in widening its testing scope beyond Mountain View to Texas, Arizona, and Washington state. It also secured its first partnership with a major automaker (Fiat Chrysler) in May, and brought on a legal lead in July.

However, longtime team members have departed the project. August saw the departure of project CTO Chris Urmson, and former engineers have also left to found startups such as **Otto** and **Nuro.ai**. The company's pole position in the autonomous race is up for debate as **other players have flooded in**, as our Trends tool tracking of buzz around self-driving corroborates:



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On the logistics side, Alphabet has Google's Express same-day delivery service, which **expanded into fresh groceries in February**.

Under X, there is also Wing, the automated aircraft project that just partnered with Chipotle to test burrito delivery at Virginia Tech.

As with other sectors, both delivery programs are defensive bulwarks against drone and other logistics initiatives from Amazon, given the e-commerce giant's **threat to Google's product search traffic**. They also bring Alphabet into competition with companies like **Instacart**, **FreshDirect**, and of course Uber, which we've already cited as a budding rival in autonomous driving and ride-sharing. Project Wing also shares conceptual ground with a growing number of **automated delivery drone startups**.

Healthcare & digital health

As we've seen, GV has invested heavily in healthcare and digital health startups under Bill Maris. Though it remains to be

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seen whether this will continue under GV's new leadership, Alphabet has two other distinct subsidiaries dedicated to life sciences research.

Of the two, Verily (f.k.a. Google Life Sciences) is the more recent construct, formed in December 2015 to corral a number of projects, including smart glucose-sensing contact lenses, nanodiagnostics, and stabilized spoons to counteract tremors (acquired via Lift Labs). Verily has also partnered with top healthcare brands including Johnson & Johnson (Verb Surgical), GlaxoSmithKline (Galvani Bioelectronics), and Dexcom (continuous glucose monitoring), among others.

Verily is yet another Alphabet unit that has been criticized for unclear paths to market. There has been some drain of top Verily talent, with veteran Googlers returning to the mothership or departing for competitors. Skeptical observers have also **questioned the effectiveness and practicality of Verily's programs**, including Stanford's professor of disease prevention.

"One needs to balance how much these toys are used mostly for marketing and for giving a sense of a company really working on something impressive—the brave new world—or if we're talking about something that will have clear and immediate clinical impact… The latter is very hard to imagine."

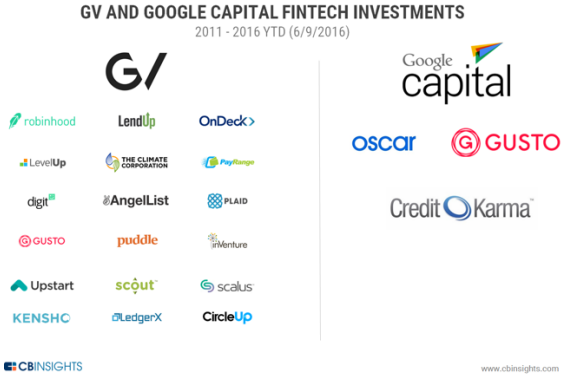
Meanwhile, Calico embodies the true spirit of moonshot philosophy, aiming to prolong human lifespans by understanding the genetics of aging and combating age-related diseases. Unlike its sibling, Calico has hired medical experts from **primarily external sources**, rather than the Googleplex itself. As of September 2015, Google had disclosed **a $240M budget for the unit**, with pledged support of up to $490M as necessary.

Understandably given its mission, Calico is stealthy and shrouded in some mystery, having less in the way of tangible products and a greater emphasis on long-term research projects. (Verily does have a corollary in its Baseline genomics study.) Calico's corporate website is sparse, but still discloses a handful of notable collaborators, including AbbVie, AncestryDNA, and several universities.

Under Google proper, even its DeepMind unit has recently displayed interest in the healthcare space, with its aforementioned investment in telemedicine startup Babylon. DeepMind also acquired clinical task-management app **Hark** in February 2016, while simultaneously **setting up its DeepMind Health division** as it seeks more potential outlets for applied AI developments.

Fintech

We've **written extensively about Alphabet's forays into fintech**, so we will just touch on a few key areas here. In terms of investments, both GV and Google Capital's portfolios prominently feature their stakes in fintech startups.



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Insurance tech has been a particular focus, with the company **securing at least 6 distinct partnerships and investments** in 2015. These range from Nest's insurance tie-up with American Family to its now-defunct Google Compare partnership with **CoverHound** and Compare.com.

Full version appendix y

In July, Google also announced the banning of payday loan ads on its advertising networks, **a topic we covered with Arjan Schütte** during our Future of Fintech conference. On the payments side, Mountain View **shut down** physical Google Wallet cards in June, but continues to maintain the platform alongside its Android Pay sibling. The latter faces competition not only from Apple but also Android licensees like Samsung, which have developed their own mobile payment platforms.

FINAL WORDS

Taken in full, Alphabet is very much in a transitional phase as it grows into its new corporate structure. Corporate objectives have been reoriented towards more coordinated goals and divisional profitability.

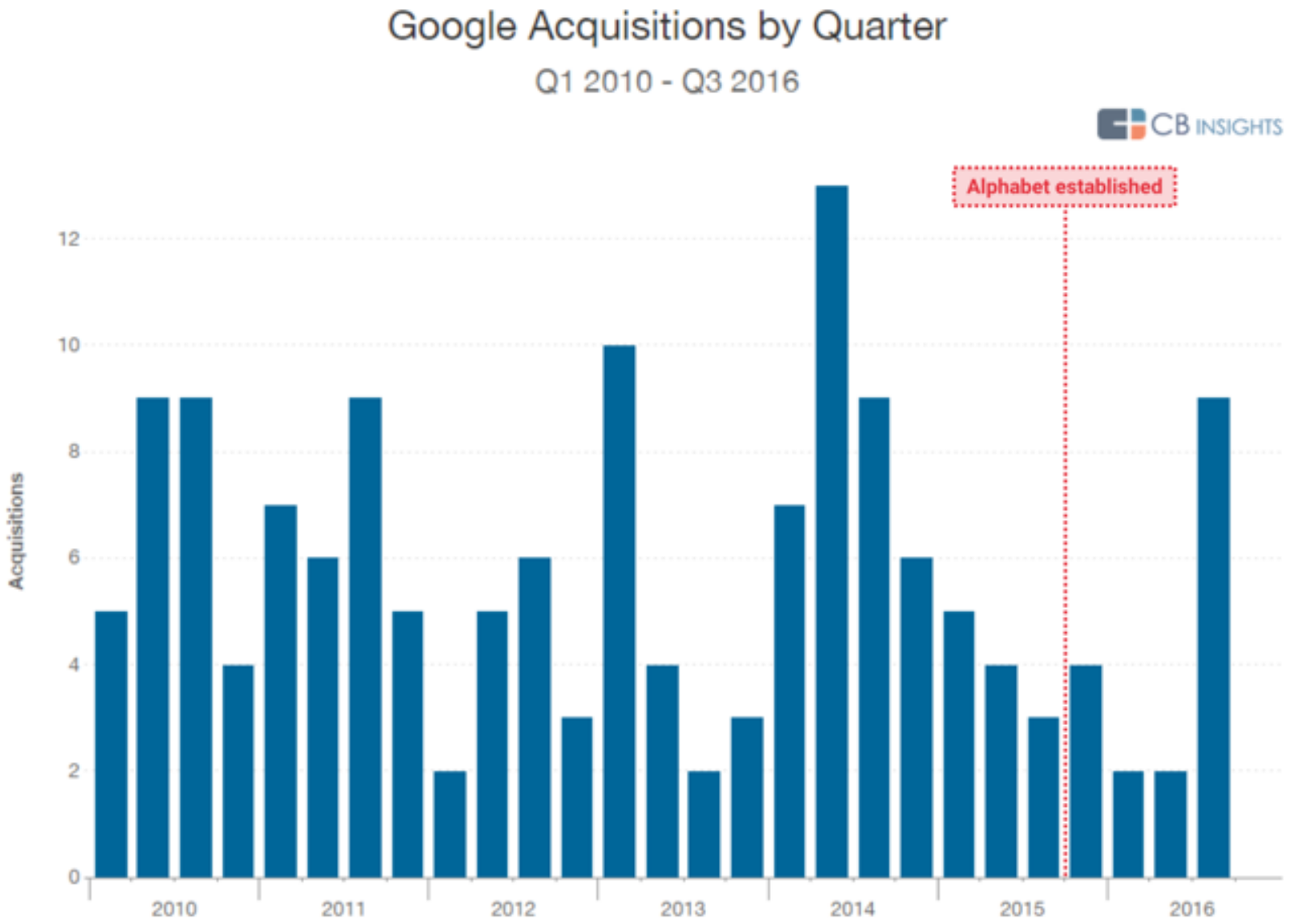
Alphabet has already brought greater clarity and accountability to units whose strategies have long been uncertain. Observers and shareholders alike have cheered the new divisions, hardware and software teams, and focus on veteran industry leadership.

Still, redundancies remain apparent among its many programs and most X projects have survived the transition.

As Alphabet places greater weight on profitability and commercial potential, as well as a more focused approach to meet the challenges of competitors, it has settled on one main weapon: artificial intelligence. AI will be its main differentiator used in fending off competitors and growing new markets. But it remains to be seen whether betting the farm on AI will keep Google ahead. Much depends on execution, and simultaneous success in newer verticals like transportation, cloud services, healthcare, and consumer hardware.

Looking for more data on corporate investment, acquisition, and research activity? Sign up for the CB Insights **tech market intelligence platform** for free.

APPENDIX


Google Acquisitions by Quarter
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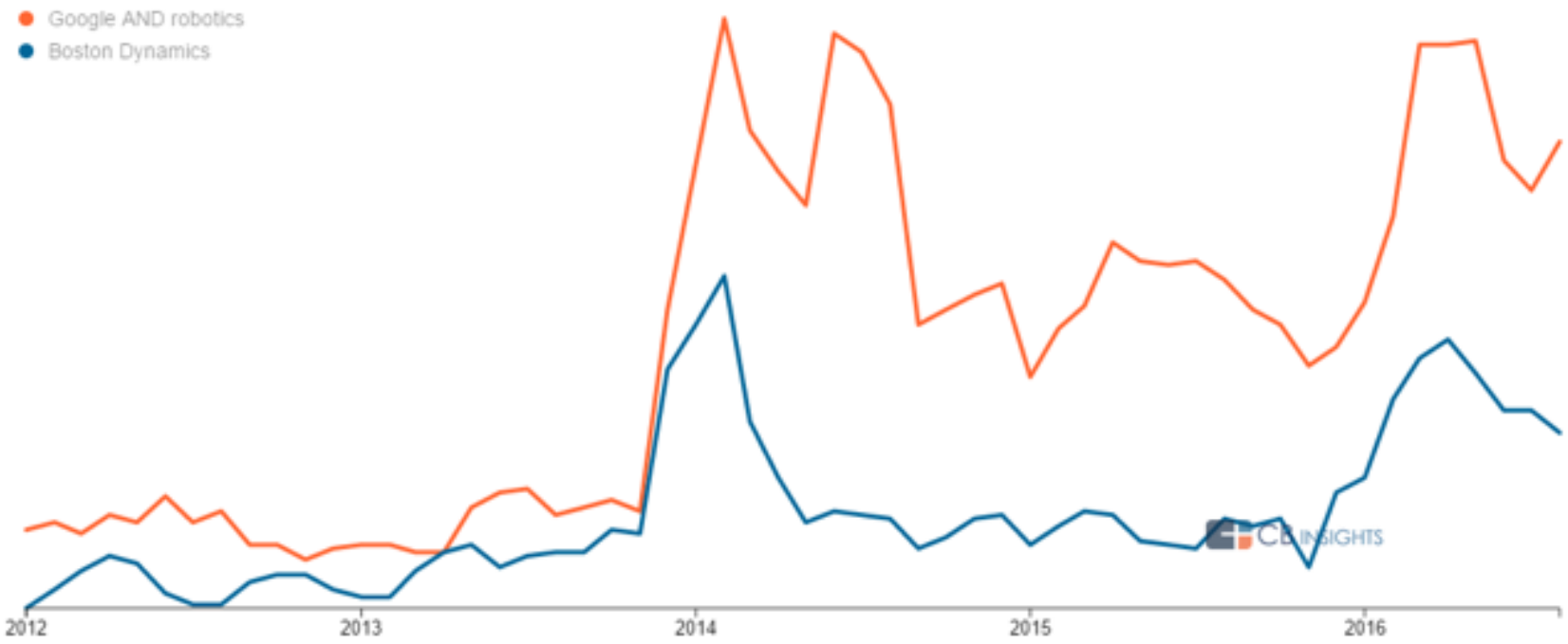
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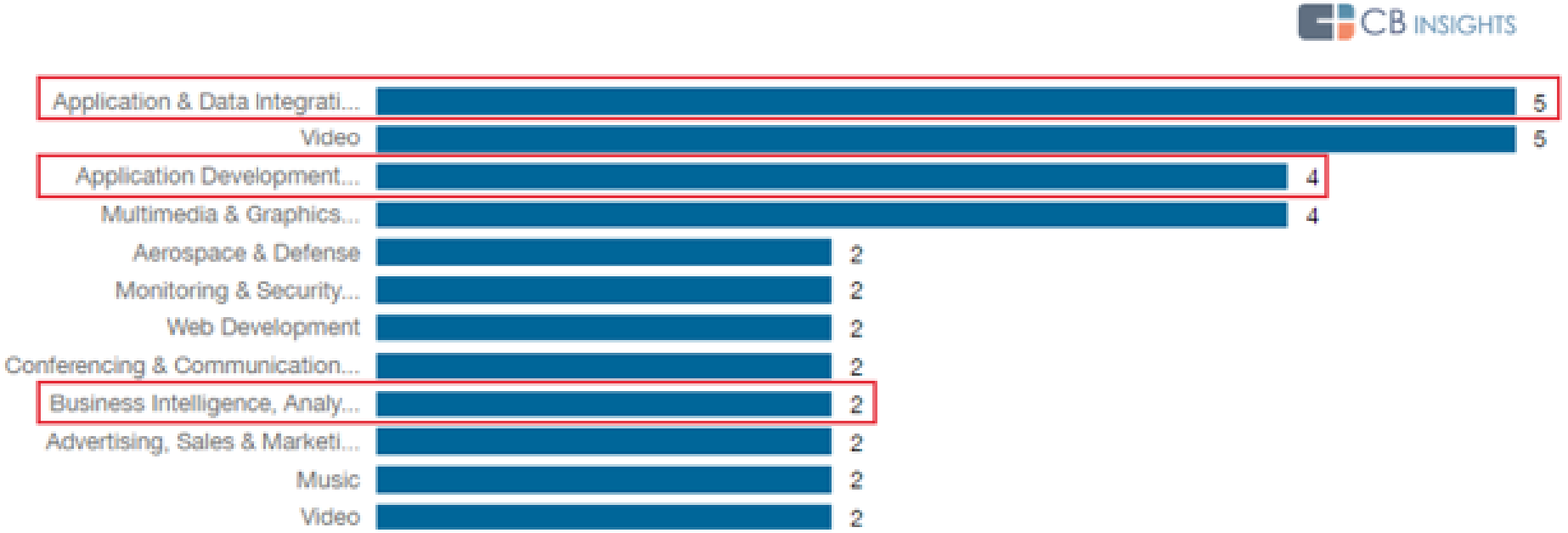
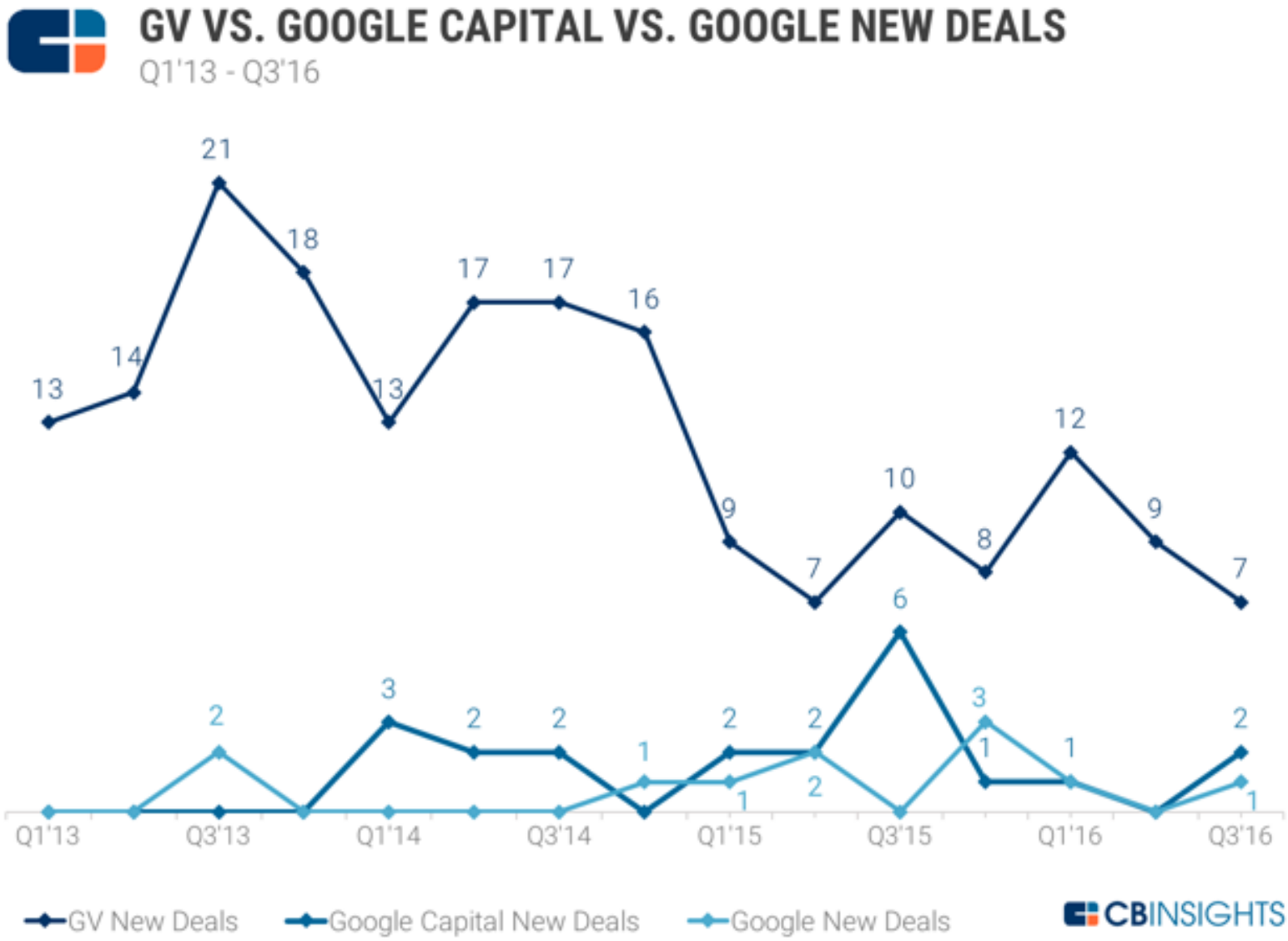
Google Acquisitions by Subindustry

Q4 2013 - Q3 2016 (to date)




GV VS. GOOGLE CAPITAL VS. GOOGLE NEW DEALS
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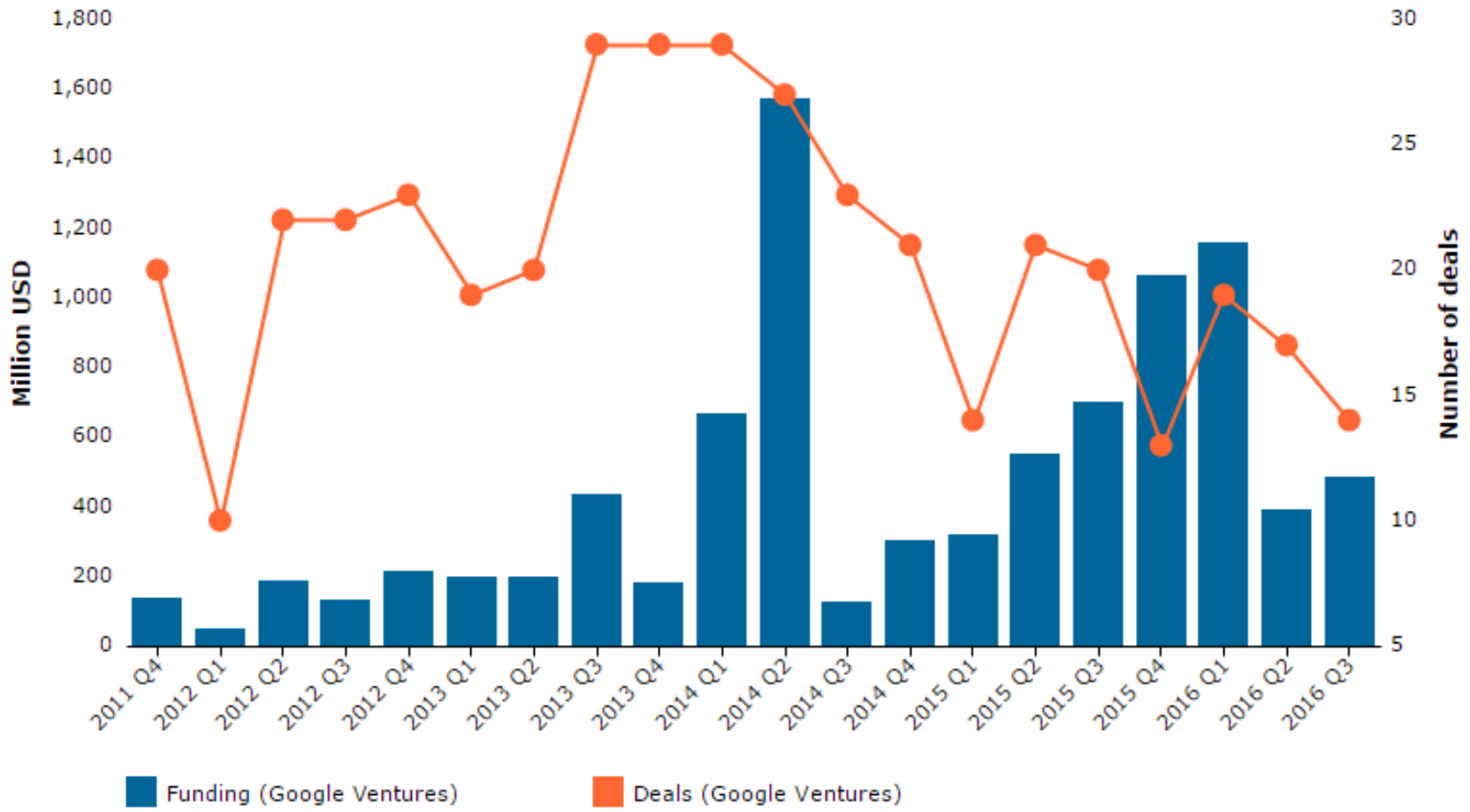
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2011 Q4
2012 Q1
2012 Q2
2012 Q3
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2014 Q4
2015 Q1
2015 Q2
2015 Q3
2015 Q4
2016 Q1
2016 Q2
2016 Q3
Funding (Google Ventures)
Deals (Google Ventures)

2 years | 5 years

$34.8M
Avg Deals Size in 2016 Q3

$27.5M
Median Deal Size in 2016 Q3

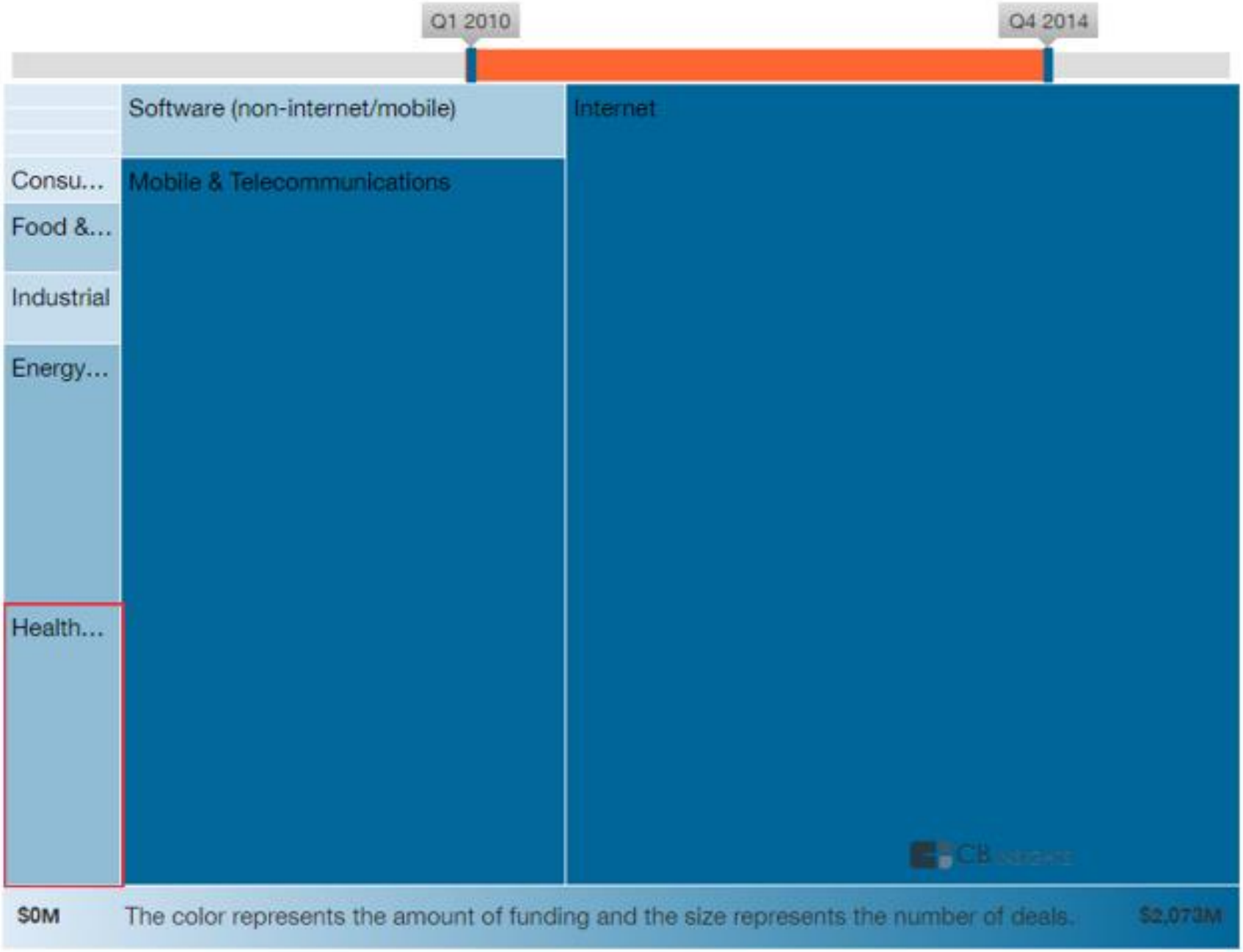
+37.7%
Change in Average Deal Size Since 2016 Q2

+22.22%
Change in Median Deal Size Since 2016 Q2

1 year | 2 years | 3 years | 4 years | 5 years

	Seed / Angel	Series A	Series B	Series C	Series D	Series E+
% of deals	22.22%	26.67%	23.7%	18.52%	5.19%	3.7%
Avg deal size	$2.48M	$13.65M	$46.68M	$86.88M	$54.76M	$74.07M
Median deal size	$2.05M	$9M	$25.1M	$40.1M	$45M	$65M
Deal growth (yoy)	-84.62%	-28.57%	+120%	+50%	+150%	+50%

Q3 2014
Q4 2015
Aus...
North America
Eur...
$7M
The color represents the amount of funding and the size represents the number of deals.
$2,916M


Q1 2010
Q4 2014
Software (non-internet/mobile)
Internet
Consu...
Mobile & Telecommunications
Food &...
Industrial
Energy...
Health...
$0M
The color represents the amount of funding and the size represents the number of deals.
$2,073M

Q1 2015
Q2 2016
Food...
Computer Hardware & S...
Mobile & Telecommunications
Envir...
Healthcare
Medi...
Internet
Ener...
Indus...
Software (non-internet/...
Elect...
Busin...
Finan...
$0M
The color represents the amount of funding and the size represents the number of deals.
$2,480M

GV's Top Exits

Company	Valuation at time of exit	GV Stage of Entry	Year
Jet.com	$3.3B	Convertible Note (Post Series A)	2016
Nest Labs	$3.2B	Series C	2014
HomeAway	$2.15B	Series E	2011
OnDeck Capital	$1.32B	Series D	2014
Climate Corp	$1B	Series B	2013
Hubspot	$759M	Series D	2014
SilverSpring Networks	$754M	Series D	2013
Editas Medicine	$571M	Series B	2016
Foundation Medicine	$489M	Series A	2013

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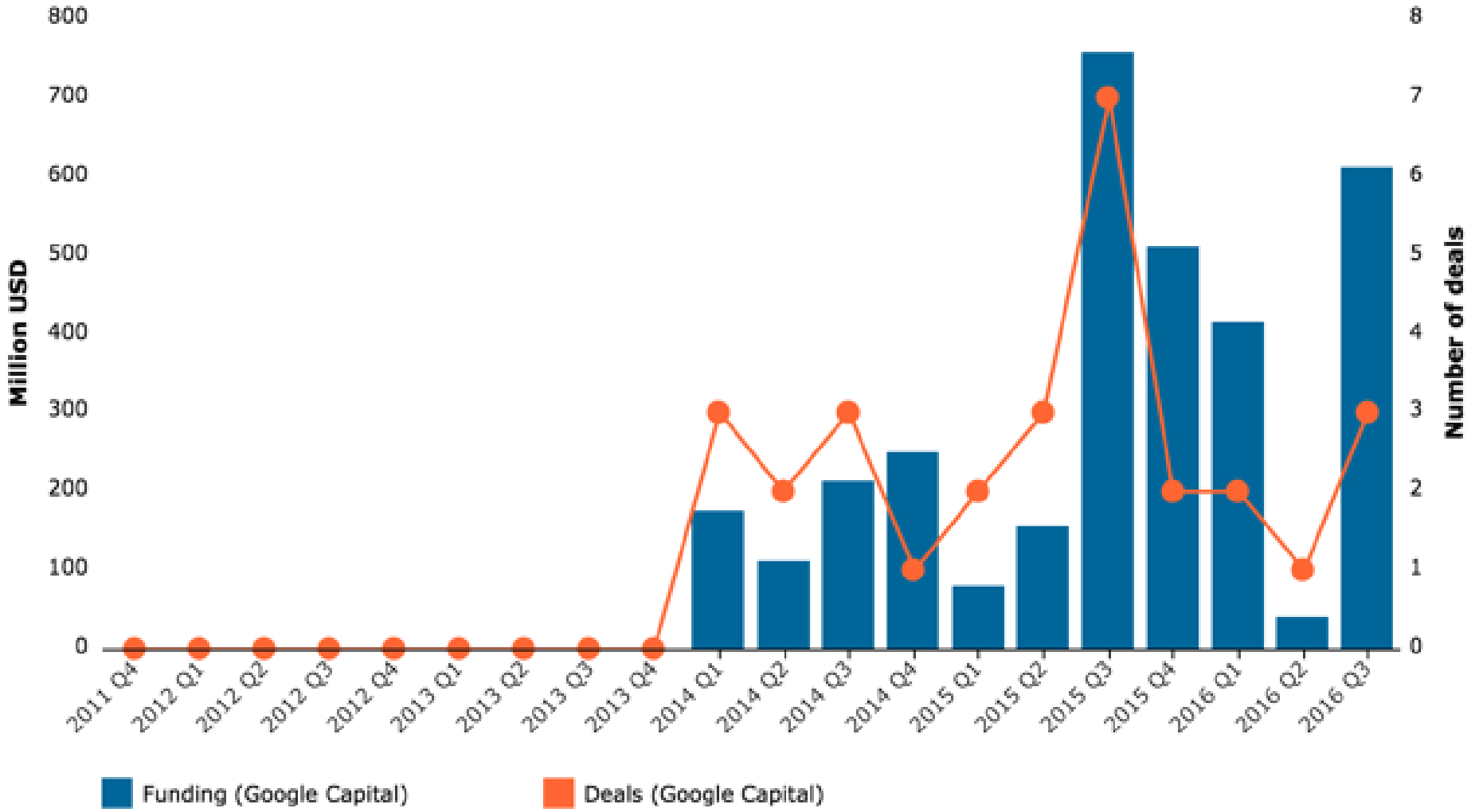

800
700
600
500
400
300
200
100
0
Million USD
8
7
6
5
4
3
2
1
0
Number of deals
2011 Q4
2012 Q1
2012 Q2
2012 Q3
2012 Q4
2013 Q1
2013 Q2
2013 Q3
2013 Q4
2014 Q1
2014 Q2
2014 Q3
2014 Q4
2015 Q1
2015 Q2
2015 Q3
2015 Q4
2016 Q1
2016 Q2
2016 Q3
Funding (Google Capital)
Deals (Google Capital)

Amount invested ($M)	Total	Seed / Angel	Series A	Series B	Series C	Series D	Series E+
0-1	0 deals $0M						
1-5	0 deals $0M						
5-10	0 deals $0M						
10-25	1 deals $15M						
25-50	7 deals $286M						
50-100	6 deals $500M						
100-250	2 deals $235M						
250-500	3 deals $1,135M						
500+	0 deals $0M						

Invested **before** Google Capital

Investor	Companies (rounds)	YoY changes	Stages
New Enterprise Associates	4 (11)		
Tiger Global Managem…	4 (8)		
Union Square Ventures	3 (5)		
Kleiner Perkins Caufield & Byers	3 (3)		
Institutional Venture Partners	2 (3)		
Founders Fund	2 (5)		

Invested **with** Google Capital

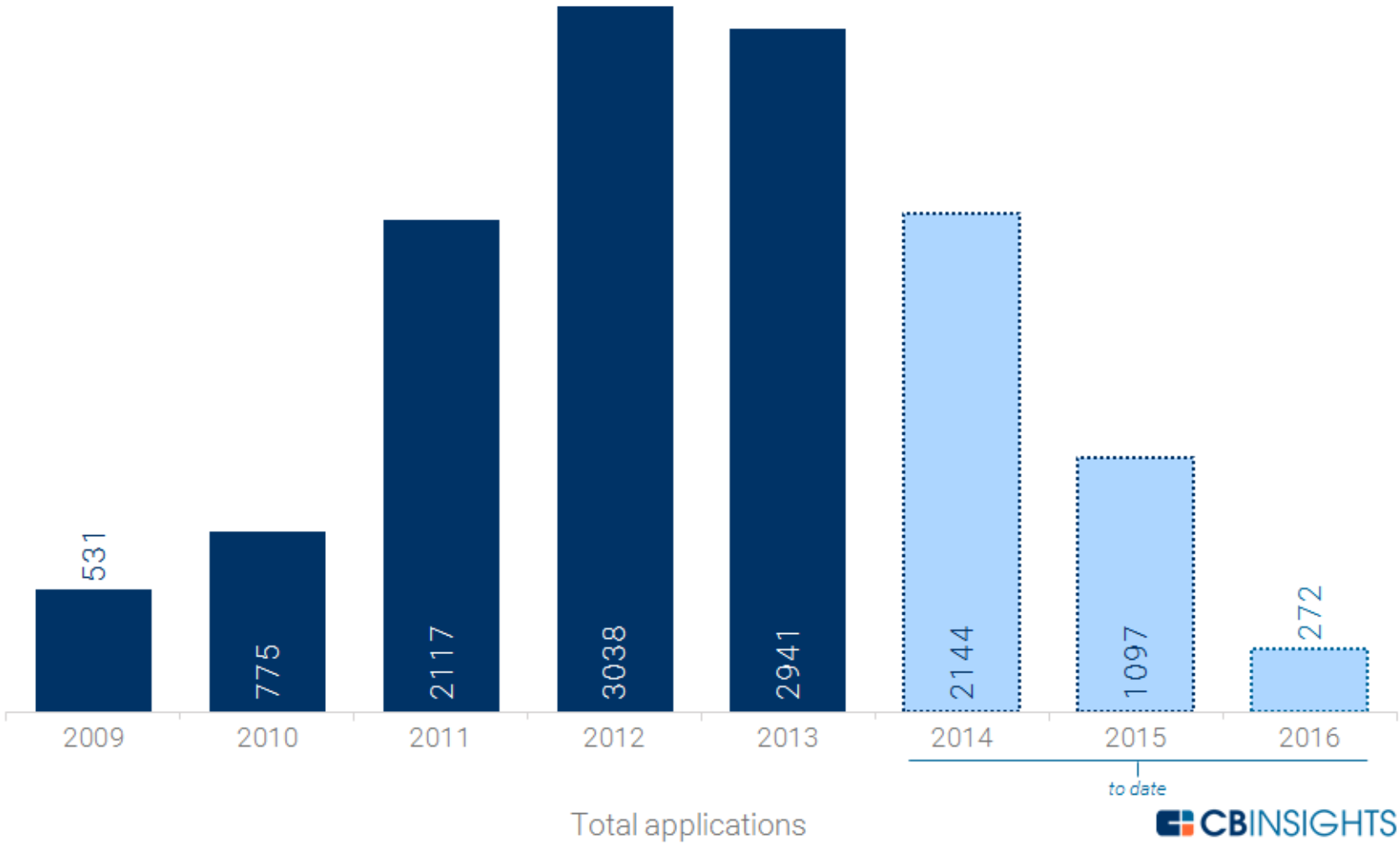
Investor	Companies (rounds)	YoY changes	Stages
Tiger Global Managem…	5 (9)		
New Enterprise Associates	3 (4)		
Fidelity Investments	3 (3)		
General Catalyst Partners	2 (3)		
Google Ventures	2 (3)		
Accel Partners	2 (3)		
Qualcomm Ventures	2 (3)		

Invested **after** Google Capital

Investor	Companies (rounds)	YoY changes	Stages
General Catalyst Partners	1 (1)		
FinSight Ventures	1 (1)		
Tiger Global Managem…	1 (1)		
Valinor Managem…	1 (1)		
Viking Global Investors	1 (1)		
Coatue Managem…	1 (1)		
DST Global	1 (1)		

GOOGLE OVERALL PATENT APPLICATION ACTIVITY

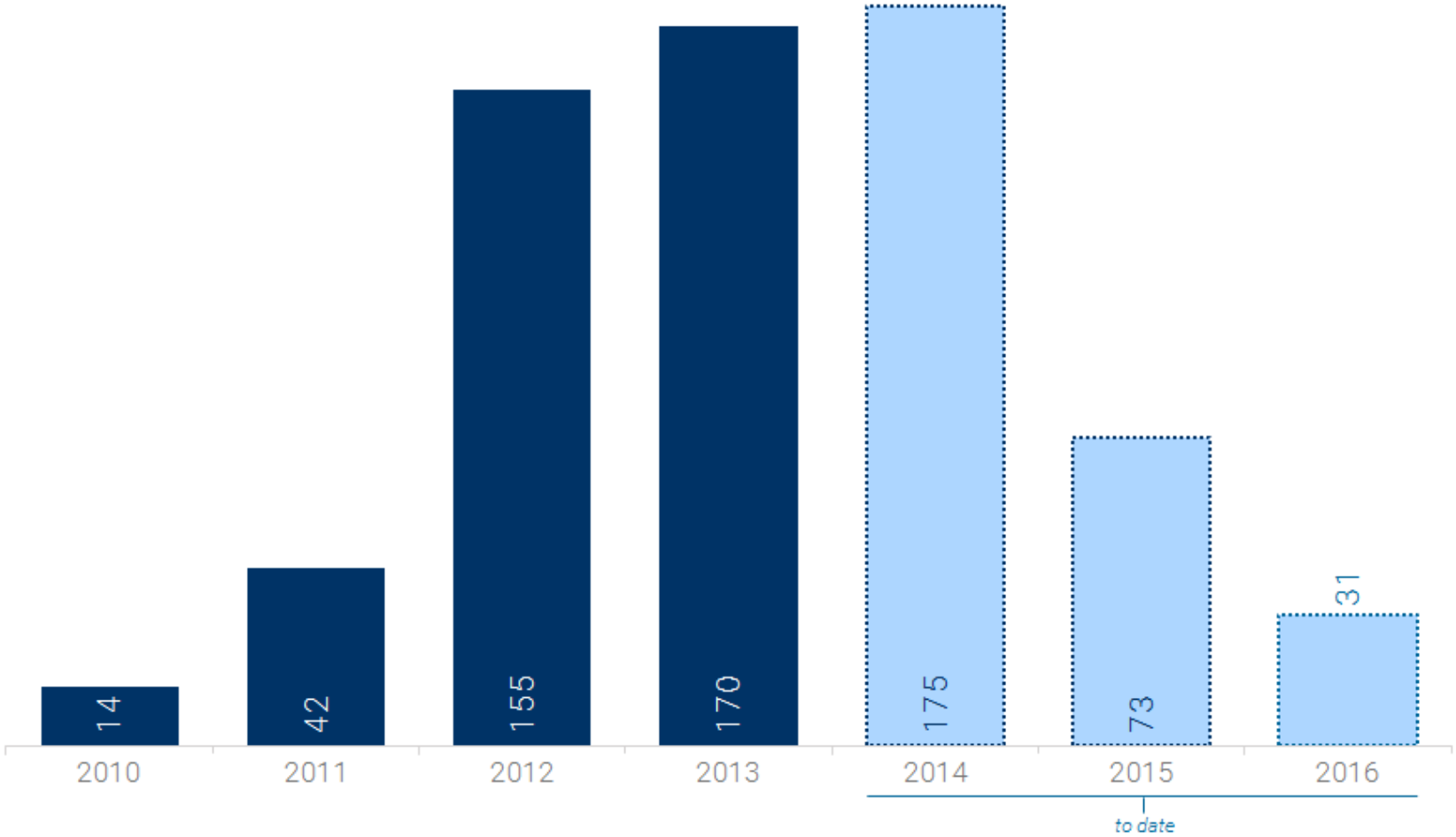
By date of application, 2010 - 2016 YTD (9/26/2016)



2010	2011	2012	2013	2014	2015	2016 YTD
document	image	image	image	image	**glasses**	**balloon**
query	search	search	search	**vehicle**	image	image
search	document	document	item	item	device	**vehicle**
location	query	item	query	video	application	search
result	item	video	application	application	module	item
image	application	query	location	sensor	video	word
video	message	application	**vehicle**	message	search	application
content	object	content	video	search	query	video
resource	page	**vehicle**	content item	content item	item	hotword
search result	search result	network	content	content	network	wireless
score	video	result	entity	location	**vehicle**	action
model	result	object	layer	**wearable display**	content	chunk
message	content	data	document	display device	mesh network	portion
server	resource	entity	object	data	content item	point
item	data	search result	result	module	display device	content item
application	model	location	message	device	event	command
advertisement	language	device	input	event	location	camera
file	mobile device	message	event	network	computing device	signal
conversation	location	resource	search result	**balloon**	power	user device
client	module	module	data	object	map	location

GOOGLE AUTOMOTIVE PATENT APPLICATION ACTIVITY

By date of application, 2010 - 2016 YTD (9/26/2016)



"Vehicle" and "autonomous vehicle" keyword instances

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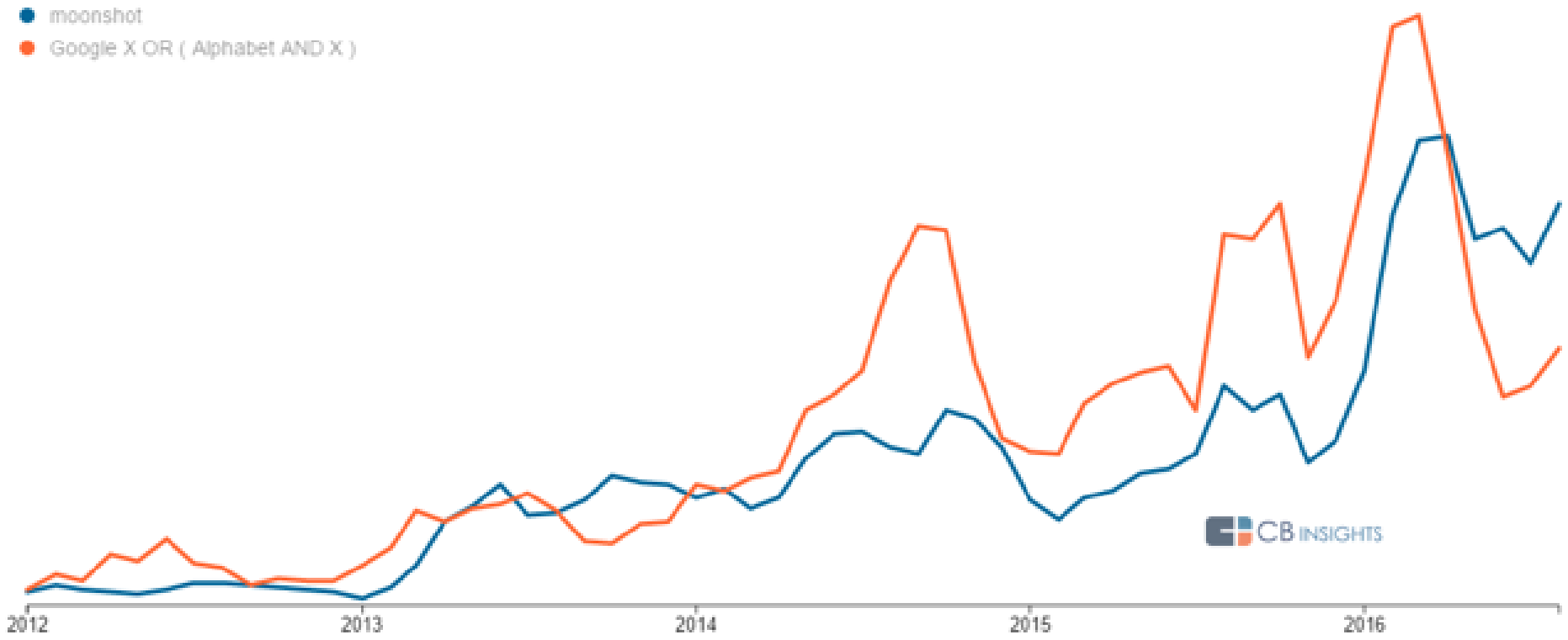
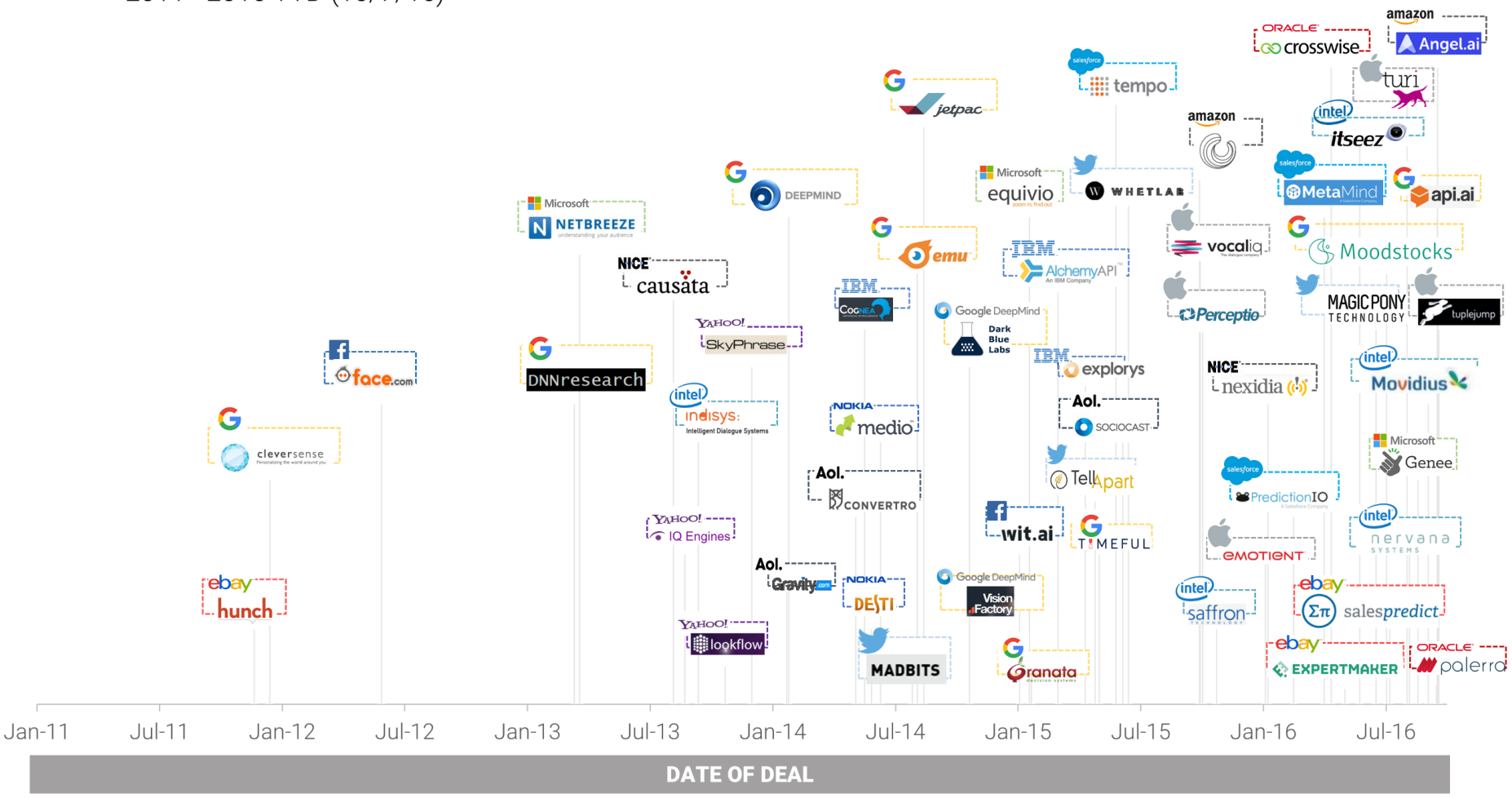

moonshot
Google X OR (Alphabet AND X)
CB INSIGHTS
2012
2013
2014
2015
2016

RACE FOR AI: MAJOR ACQUIRERS IN ARTIFICIAL INTELLIGENCE

2011 - 2016 YTD (10/7/16)



www.cbinsights.com

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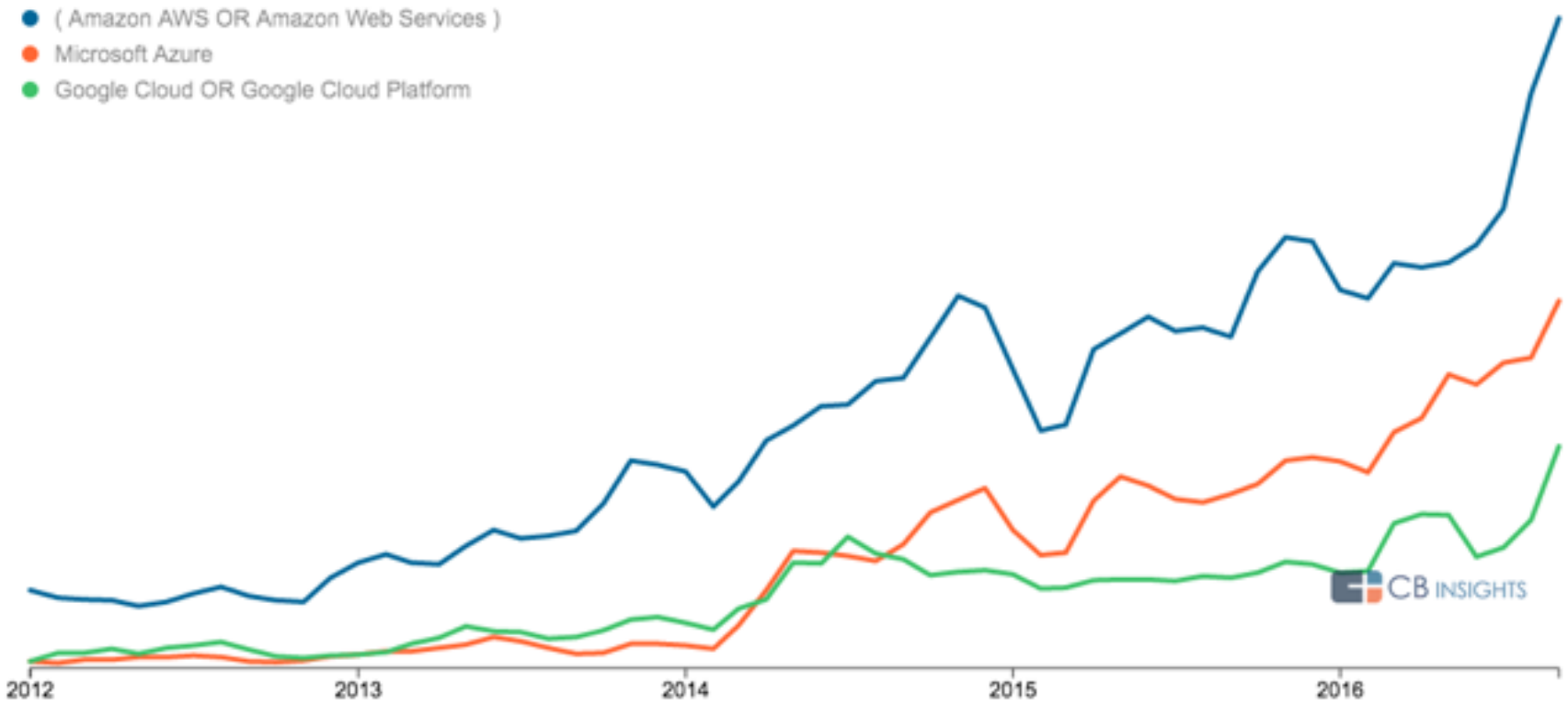
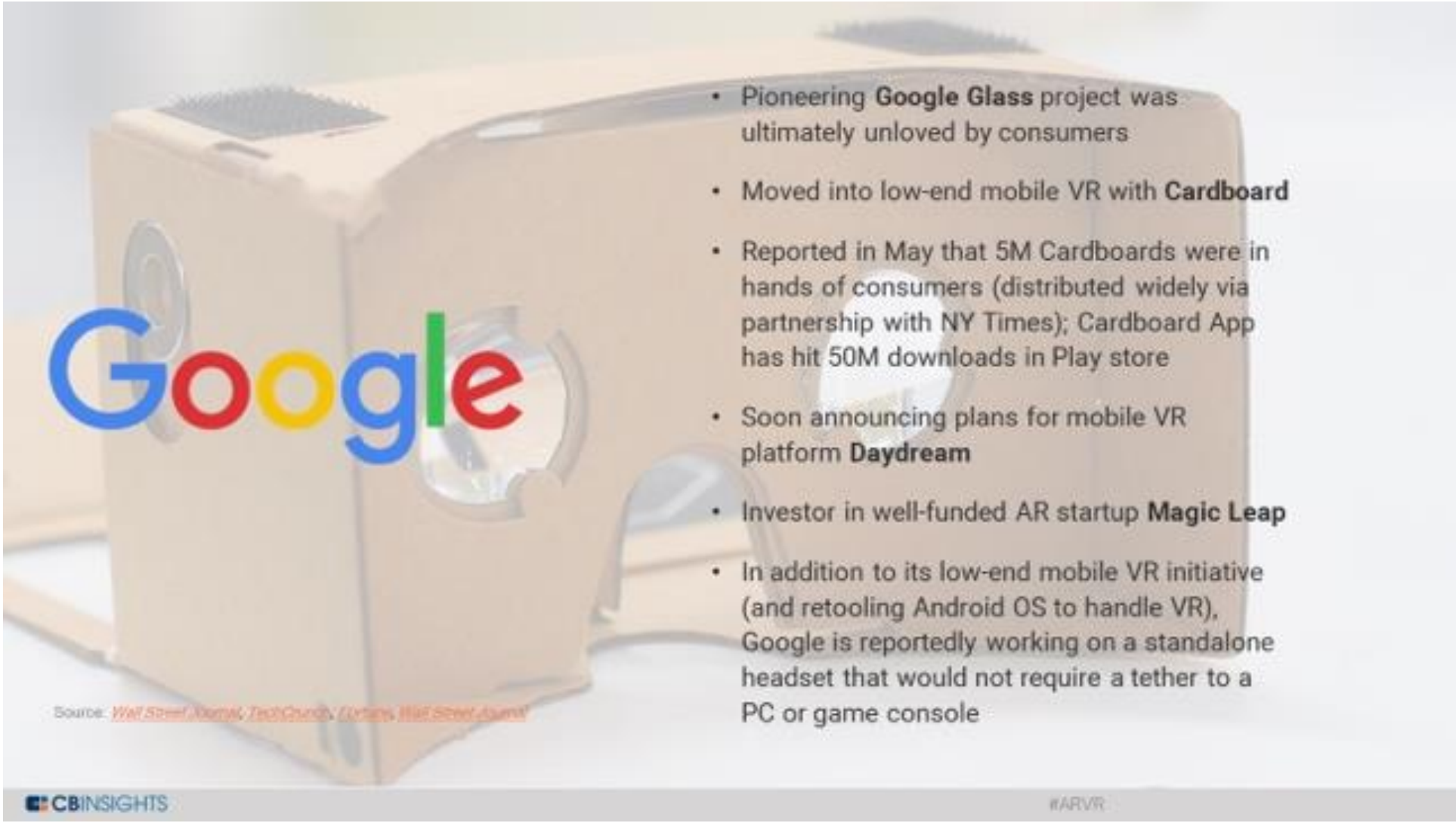
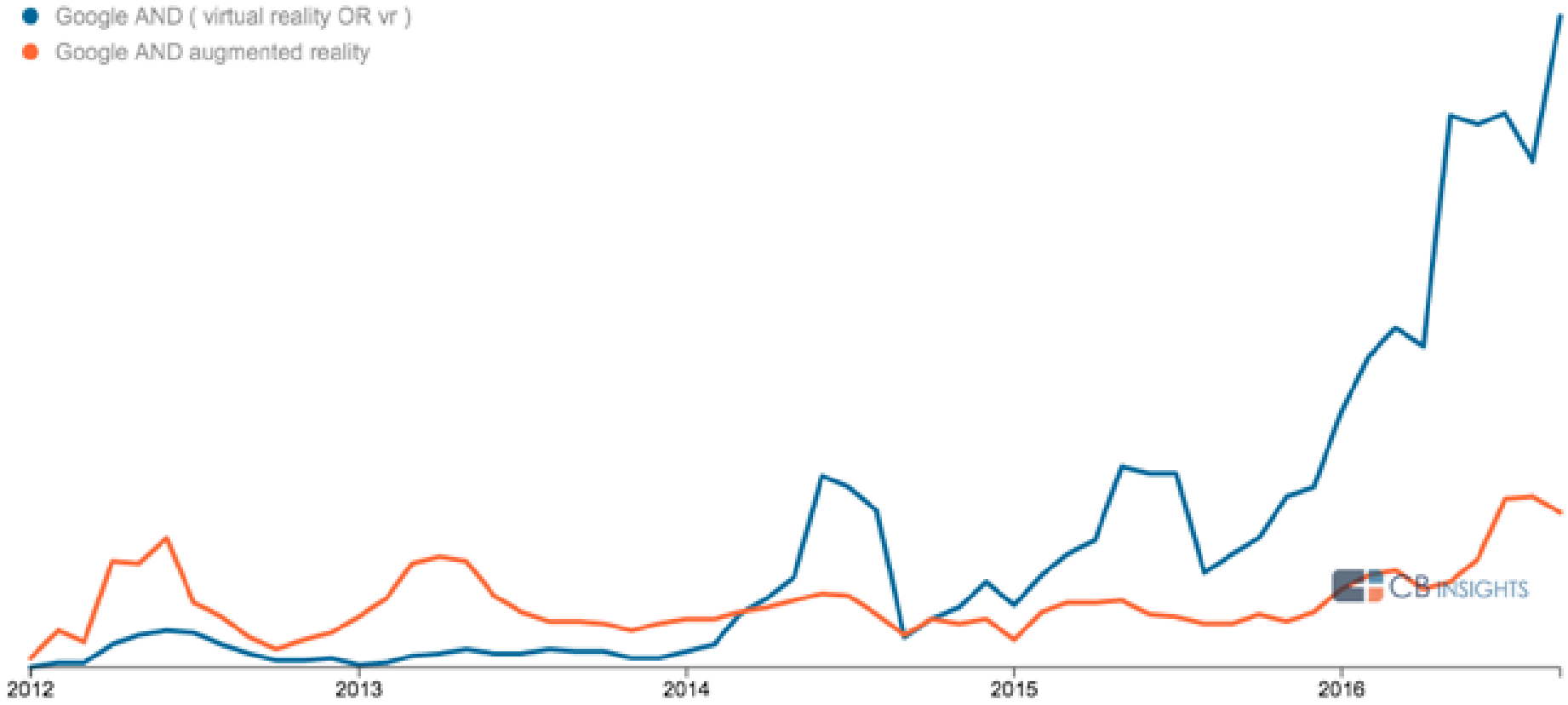
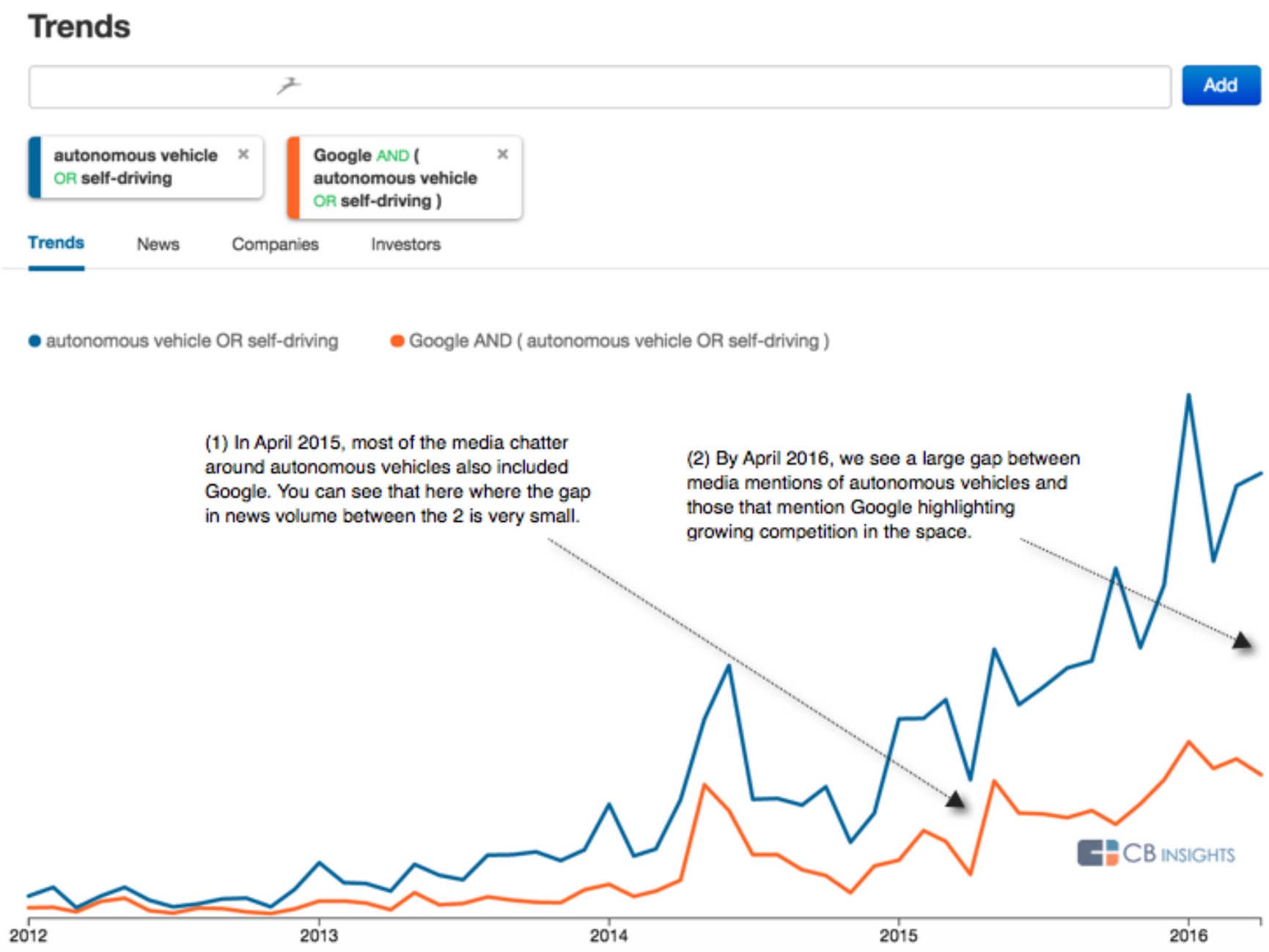

(Amazon AWS OR Amazon Web Services)
Microsoft Azure
Google Cloud OR Google Cloud Platform
2012
2013
2014
2015
2016
CB INSIGHTS


Google
• Pioneering **Google Glass** project was ultimately unloved by consumers
• Moved into low-end mobile VR with **Cardboard**
• Reported in May that 5M Cardboards were in hands of consumers (distributed widely via partnership with NY Times); Cardboard App has hit 50M downloads in Play store
• Soon announcing plans for mobile VR platform **Daydream**
• Investor in well-funded AR startup **Magic Leap**
• In addition to its low-end mobile VR initiative (and retooling Android OS to handle VR), Google is reportedly working on a standalone headset that would not require a tether to a PC or game console
Source: Wall Street Journal, TechCrunch, Forbes, Wall Street Journal
CBINSIGHTS
#ARVR


Google AND (virtual reality OR vr)
Google AND augmented reality
2012
2013
2014
2015
2016
CB INSIGHTS


Trends
Add
autonomous vehicle OR self-driving
Google AND (autonomous vehicle OR self-driving)
Trends
News
Companies
Investors
autonomous vehicle OR self-driving
Google AND (autonomous vehicle OR self-driving)
(1) In April 2015, most of the media chatter around autonomous vehicles also included Google. You can see that here where the gap in news volume between the 2 is very small.
(2) By April 2016, we see a large gap between media mentions of autonomous vehicles and those that mention Google highlighting growing competition in the space.
CB INSIGHTS
2012
2013
2014
2015
2016

GV AND GOOGLE CAPITAL FINTECH INVESTMENTS

2011 - 2016 YTD (6/9/2016)

GV

robinhood
LendUp
OnDeck
LevelUp
THE CLIMATE CORPORATION
PayRange
digit
AngelList
PLAID
GUSTO
puddle
inVenture
Upstart
scout
scalus
KENSHO
LedgerX
CircleUp

Google capital

oscar
GUSTO
Credit Karma

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Google
oscar
Collective Health
AXA
Liberty Mutual. INSURANCE
vsp
GUSTO
THE CLIMATE CORPORATION
AMERICAN FAMILY INSURANCE
CoverHound

LET'S GO!