

# The Daily Dispatch

Weekly Special Feature

February 03, 2023

**The race of the AI labs heats up**

By: The Economist (Published on January 30, 2023 ET)

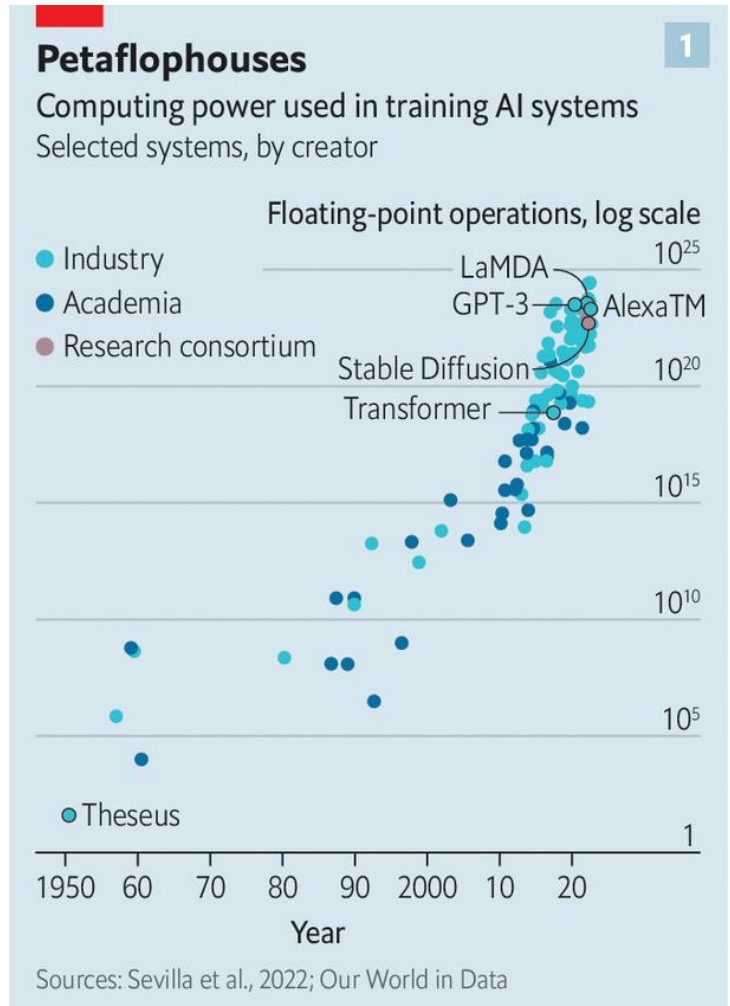


Photo: Mike Haddad

very so often a new technology captures the world’s imagination. The latest example, judging by the chatter in Silicon Valley, as well as on Wall Street and in corporate corner offices, newsrooms and classrooms around the world, is Chatgpt. In just five days after its unveiling in November the artificially intelligent chatbot, created by a startup called Openai, drew 1m users, making it one of the fastest consumer-product launches in history. Microsoft, which has just invested \$10bn in Openai, wants Chatgpt-like powers, which include generating text, images, music and video that seem like they could have been created by humans, to infuse much of the software it sells. On January 26th Google published a paper describing a similar model that can create new music from a text description of a song. When Alphabet, its parent company, presents quarterly earnings on February 2nd, investors will be listening out for its answer to Chatgpt. On January 29th Bloomberg reported that Baidu, a Chinese search giant, wants to incorporate a chatbot into its search engine in March.

It is too early to say how much of the early hype is justified. Regardless of the extent to which the generative ai models that underpin Chatgpt and its rivals actually transform business, culture and society, however, it is already transforming how the tech industry thinks about innovation

and its engines—the corporate research labs which, like Openai and Google Research, are combining big tech’s processing power with the brain power of some of computer science’s brightest sparks. These rival labs—be they part of big tech firms, affiliated with them or run by independent startups—are engaged in an epic race for ai supremacy (see chart 1). The result of that race will determine how quickly the age of ai will dawn for computer users everywhere—and who will dominate it.



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Corporate research-and-development (r&d) organisations have long been a source of scientific advances, especially in America. A century and a half ago Thomas Edison used the proceeds from his inventions, including the telegraph and the lightbulb, to bankroll his workshop in Menlo Park, New Jersey. After the second world war, America Inc invested heavily in basic science in the hope that this would yield practical products. DuPont (a maker of chemicals), ibm and Xerox (which both manufactured hardware) all housed big research laboratories. at&t’s Bell Labs produced, among other inventions, the transistor, laser and the photovoltaic cell, earning its researchers nine Nobel prizes.

In the late 20th century, though, corporate r&d became steadily less about the r than the d. In 2017 Ashish Arora, an economist, and colleagues examined the period from 1980 to 2006 and found that firms had moved away from basic science towards developing existing ideas. The reason, Mr Arora and his co-authors argued, was the rising cost of research and the increasing difficulty of capturing its fruits. Xerox developed the icons and windows now familiar to pc-users but it was Apple and Microsoft that made most of the money from it. Science remained important to innovation, but it became the dominion of not-for-profit universities.

## That rings a Bell

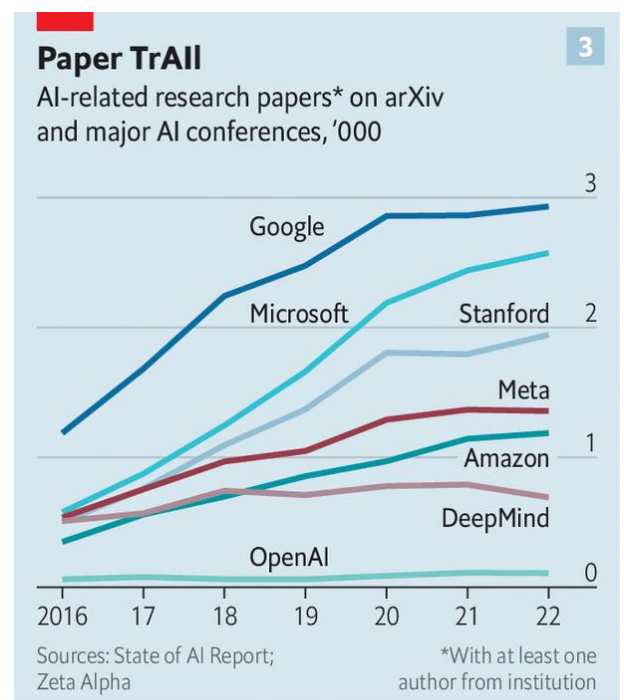
The rise of ai is shaking things up once again. Big corporations are not the only game in town. Startups such as Anthropic and Character ai have built their own Chatgpt challengers. Stability ai, a startup that has assembled an open-source consortium of other small firms, universities and non-profits to pool computing resources, has created a popular model that converts text to images. In China, government-backed outfits such as the Beijing Academy of Artificial Intelligence (baai) are pre-eminent.

But almost all recent breakthroughs in the field globally have come from large companies, in large part because they have the computing power (see chart 2). Amazon, whose ai powers its Alexa voice assistant, and Meta, which made waves recently when one of its models beat human players at “Diplomacy”, a strategy board game, respectively produce two-thirds and four-fifths as much ai research as Stanford University, a bastion of computer-science



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eggheads. Alphabet and Microsoft churn out considerably more, and that is not including DeepMind, Google Research’s sister lab which the parent company acquired in 2014, and the Microsoft-affiliated Openai (see chart 3).



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Expert opinion varies on who is actually ahead on the merits. The Chinese labs, for example, appear to have a big lead in the subdiscipline of computer vision, which involves analysing images, where they are responsible for the largest share of the most highly cited papers. According to a ranking devised by Microsoft, the top five computer-vision teams in the world are all Chinese. The baai has also built what it says is the world's biggest natural-language model, Wu Dao 2.0. Meta's "Diplomacy" player, Cicero, gets kudos for its use of strategic reasoning and deception against human opponents. DeepMind's models have beat human champions at Go, a notoriously difficult board game, and can predict the shape of proteins, a long-standing challenge in the life sciences.

All these are jaw-dropping feats. Still, when it comes to the "generative" ai that is all the rage thanks to Chatgpt, the biggest battle is between Microsoft and Alphabet. To get a sense of whose tech is superior, The Economist has put both firms' ais through their paces. With the help of an engineer at Google, we asked Chatgpt, based on an Openai model called gpt-3.5, and Google's yet-to-be launched chatbot, built upon one called Lamda, a broad array of questions. These included ten problems from an American mathematics competition ("Find the number of ordered pairs of prime numbers that sum to 60"), and ten reading questions from the sat, an American school-leavers' exam ("Read the passage and determine which choice best describes what happens in it"). To spice things up, we also asked each model for some dating advice ("Given the following conversation from a dating app, what is the best way to ask someone out on a first date?").

Neither ai was clearly superior. Google's was slightly better at maths, answering five questions correctly, compared with three for Chatgpt. Their dating advice was uneven: fed some actual exchanges in a dating app each gave specific suggestions on one occasion, and generic platitudes such as "be open minded" and "communicate effectively" on another. Chatgpt, meanwhile, answered nine sat questions correctly compared with seven for its Google rival. It also appeared more responsive to our feedback and got a few questions right on a second try. Another test by Riley Goodside of Scale ai, an AI startup, suggests Anthropic's chatbot, Claude, might perform better than Chatgpt at realistic-sounding conversation, though it performs worse

at generating computer code.

The reason that, at least so far, no model enjoys an unassailable advantage is that ai knowledge diffuses quickly. The researchers from all the competing labs "all hang out with each other", says David Ha of Stability ai. Many, like Mr Ha, who used to work at Google, move between organisations, bringing their expertise and experience with them. Moreover, since the best ai brains are scientists at heart, they often made their defection to the private sector conditional on a continued ability to publish their research and present results at conferences. That is one reason that Google made public big advances including the "transformer", a key building block in ai models, giving its rivals a leg-up. (The "t" in Chatgpt stands for transformer.) As a result of all this, reckons Yann LeCun, Meta's top ai boffin, "Nobody is ahead of anybody else by more than two to six months."

These are, though, early days. The labs may not remain neck-and-neck for ever. One variable that may help determine the ultimate outcome of the contest is how they are organised. Openai, a small startup with few revenue streams to protect, may find itself with more latitude than its competitors to release its products to the public. That in turn is generating tonnes of user data that could make its models better ("reinforcement learning with human feedback", if you must know)—and thus attract more users.

This early-mover advantage could be self-reinforcing in another way, too. Insiders note that Openai's rapid progress in recent years has allowed it to poach a handful of experts from rivals including DeepMind, which despite its various achievements may launch a version of its chatbot, called Sparrow, only later this year. To keep up, Alphabet, Amazon and Meta may need to rediscover their ability to move fast and break things—a delicate task given all the regulatory scrutiny they are receiving from governments around the world.

Another deciding factor may be the path of technological development. So far in generative ai, bigger has been better. That has given rich tech giants a huge advantage. But size may not be everything in the future. For one thing, there are limits to how big the models can conceivably get. Epoch, a non-profit research institute, estimates that at

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current rates, big language models will run out of high-quality text on the internet by 2026 (though other less-tapped formats, like video, will remain abundant for a while). More important, as Mr Ha of Stability ai points out, there are ways to fine-tune a model to a specific task that “dramatically reduce the need to scale up”. And novel methods to do more with less are being developed all the time.

The capital flowing into generative-ai startups, which last year collectively raised \$2.7bn in 110 deals, suggests that venture capitalists are betting that not all the value will be captured by big tech. Alphabet, Microsoft, their fellow technology titans and the Chinese Communist Party will all try to prove these investors wrong. The ai race is only just getting started.

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Source: The Economist (2023). The race of the AI labs heats up. Available at:  
<https://www.economist.com/business/2023/01/30/the-race-of-the-ai-labs-heats-up>



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February 03, 2023  
TODAY'S TOP NEWS

## Peso hits P53.845 vs \$, strongest close since June

Filipinos may get some reprieve from the high cost of imports as the peso strengthened against the United States dollar on Thursday, according to data from the Bankers Association of the Philippines (BAP). The Philippine peso closed at P53.845 to the greenback, the strongest close of the peso since June 2022.

## PAGCOR records P58.96-B revenues in 2022

The Philippine Amusement and Gaming Corporation (PAGCOR) posted another record-breaking feat after its total income for 2022 reached P58.96 billion, a 66.16-percent increase compared to its P35.48 billion total income in 2021. The biggest contributor to PAGCOR's revenue achievement was its income from gaming operations.

## PHL ranks 8th, countries with most crypto account

Nearly 7 million Filipinos owned cryptocurrency accounts nationwide, placing the country eighth among the number of crypto owners, according to London-based research firm CoinJournal. The data showed there were a total of 6.99 million Filipinos or 6.13 percent of the population with a cryptocurrency account.

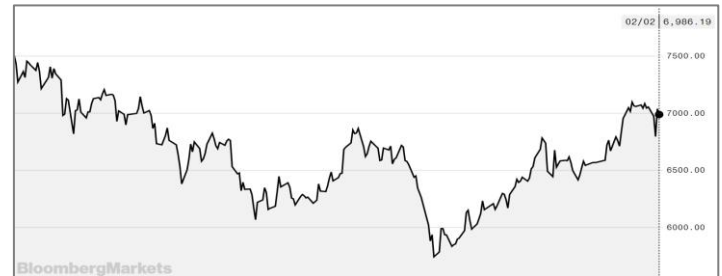
## DOF has asset list for sale to seed MIF – Diokno

Finance Secretary Benjamin E. Diokno listed more possible assets that the gov't could sell, including the Mile Long property, to bankroll the proposed sovereign wealth fund. Diokno disclosed that the Department of Finance has a list of the possible gov't assets that can be sold to finance the Maharlika Investment Fund (MIF)

## Pet food sales in PHL seen to rise to \$434M

Sales of pet food in the Philippines is projected to grow by 9% on an annual basis to a record high of \$434 million, driven by the growing number of dog and cat owners nationwide, an international agency said. Pet food consumption in the Philippines increased as more Filipinos adopted more dogs and cats during the pandemic.

## Philippine Stock Market Update



**Previous Close:**

6,986.19

**1 Yr Return:**

-3.10%

**Open:**

7,012.87

**YTD Return:**

6.66%

**52-Week Range:**

5,699.30 - 7,552.20

**Source:**

Bloomberg

## Foreign Exchange

As of February 2, 2023

US Dollar	Philippine Peso
1	53.96

## BVAL Reference Rates

As of February 2, 2023

Tenor	Rate
1Y	5.336
3Y	5.588
5Y	5.829
7Y	5.965
10Y	6.066
20Y	6.330

## Daily Quote

"Sometimes one creates a dynamic impression by saying something, and sometimes one creates as significant an impression by remaining silent."

– Dalai Lama

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## MORE LOCAL NEWS

### Robinsons Retail posts 26.7% increase in profit

ROBINSONS Retail Holdings, Inc. (RRHI) recorded a 26.7% increase in its attributable net income to P5.74 billion in 2022 from P4.53 billion the year prior.

### GLO subsidiary deploys fiber lines in South Luzon

GLOBE TELECOM, Inc.'s subsidiary deployed over 133,400 fiber lines as of end-2022 to cover more areas in Luzon. Globe said in a statement on Thursday that a subsidiary of its wholly owned Asticom Group of Companies rolled out the fiber lines in Cavite, Laguna, Batangas, Quezon, Mindoro, Palawan and Bicol.

### PBB looking to get universal bank license

PHILIPPINE BUSINESS Bank, Inc. (PBB) is aiming to obtain a universal banking license from the BSP by 2024 or 2025. The bank also plans to expand its distribution channels to provide more products and services to its clients, particularly to small and medium enterprises (SMEs), amid challenging economic conditions this year.

### SNAP signs supply deal with PetroEnergy units

RENEWABLE ENERGY company SN Aboitiz Power (SNAP) on Thursday said it signed a power supply deal with PetroGreen Energy Corp. and PetroSolar Corp. for SNAP's retail electricity supply arm, Magat-Res.

### Reforms seen to boost fund management industry

THE BANGKO SENTRAL ng Pilipinas (BSP) on Thursday said it is pursuing several reforms, including a simplified licensing framework for unit investment trust funds (UITFs) to support the fund and asset management sector.

### PH transitioning into a viable MRO hub – DTI

The Philippines is transitioning into a viable hub for aviation maintenance, repair and overhaul (MRO), driven by the country's young and skilled talents, Trade Secretary Alfredo Pascual said. Pascual recently visited the Lufthansa Technik Philippines MRO facility at the Villamor Airbase to welcome the arrival of a new aircraft.

### PH debt swells to P13.4 trillion in 2022

The country's outstanding debt soared to P13.42-tn in end-2022, 14.4% higher than the end-2021 level of P11.73-tn, but with its share to the overall economy easing to 60.9% following a strong performance last year. However, 2023 will be a true test of growth momentum for the Philippines amid global headwinds, economists say.

### Grab's investment pledge to create 500K jobs

At least 500,000 new jobs are expected to be created with investments committed by ride-hailing firm Grab Philippines, Malacanang said. The Presidential Communications Office (PCO) said Marcos met with Grab CEO Anthony Tan on Grab's recommendations on the possible ways to modernize transportation in the country.

### ACEN completes takeover of Australian JV platform

ACEN Corp. has completed its takeover of its Australian joint venture platform for \$173.1 million. In a stock exchange filing, ACEN said subsidiary ACEN Renewables International (ACRI) now wholly owns ACEN Australia following the completion of its acquisition of the Australia development platform.

### IPOPHL to address alleged Greenhills counterfeit.

The Intellectual Property Office of the Philippines said on Thursday it is working on a plan to tackle the alleged counterfeiting activities at Greenhills Shopping Center which is once again included in the US Trade Representative's (USTR) 2022 Notorious Markets for Counterfeiting and Piracy list.

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## TODAY'S TOP ASIAN NEWS

### Quantum Healthcare scales back clinic acquisition

CATALIST-LISTED Quantum Healthcare : V8Y 0% announced on Thursday (Feb 2) it is scaling back its acquisition of mainboard-listed New Silkroutes Group's : BMT 0% businesses after its original agreement to acquire six clinics for S\$4.5 million lapsed.

### Japan's Takeda says 9-month profit skids 13%

JAPAN'S Takeda Pharmaceutical kept its profit outlook for the fiscal year unchanged despite posting a 13 per cent drop in operating earnings for the nine months ended December, as the country's largest drugmaker aims to boost its drug pipeline.

### Hong Kong's borrowing cost keeps falling

The Hong Kong Monetary Authority (HKMA) raised its benchmark interest rate in line with the United States Federal Reserve on Thursday, in a move that is likely to have little immediate impact on the real cost of borrowing, which has almost halved in the past two months.

### S'pore's manufacturing activity edges up in Jan.

Manufacturing activity in Singapore edged up in January, but it was still a fifth month of continuous contraction. The purchasing managers' index (PMI) – a key indicator of trends in the sector – came in at 49.8 in January, up 0.1 point from December.

### Renminbi rally supercharges China bond yields

A stronger renminbi helped overseas holders of China's sovereign bonds to reap a profit in January even as yields rose, boosting the case for inflows to continue after global funds dumped the debt last year. The Bloomberg China Aggregate Treasury Index delivered a return of 2.86% with the renminbi's rise spurring a 2.88% gain.

## TODAY'S TOP GLOBAL NEWS

### Sterling slides after Bank of England meeting

STERLING slipped against the dollar and the euro on Thursday (Feb 2) as the Bank of England (BOE) raised interest rates by 50 basis points (bps) but hinted its tightening cycle was nearing an end.

### Netherlands' largest bank posts bigger Q4 profit

ING Group on Thursday (Feb 2) reported a fourth-quarter net profit of 1.1 billion euros (\$1.6 billion), exceeding forecasts, but its shares fell as guidance for 2023 fell short of expectations.

### Ford shares fall as Q4 profits lag estimates

FORD reported an annual loss on Thursday following disappointing fourth-quarter earnings that reflected what it called execution problems that marred performance.

### US layoffs surged to over 2-year high in January

Layoffs in the United States hit a more than two-year high in January as tech firms cut jobs at the second-highest pace on record to brace for a possible recession, a report showed on Thursday. The layoffs impacted 102,943 workers, a more than two-fold jump from December and an over five-times surge from a year earlier.

### Nasdaq leaps 3.3% in tech rally after Meta results

Large technology shares soared on Thursday as better-than-expected results from Facebook parent Meta Platforms fuelled hopes about forthcoming earnings from Apple and other giants. The tech-rich Nasdaq Composite Index finished up 3.3 per cent at 12,200.82.