

## Baidu set to launch its 1st smartphone

Baidu is adding a phone to its portfolio as it builds out a hardware ecosystem to complement its internet services

BEIJING

CHINESE internet giant is geared up to launch its first smartphone next week, as the global mobile market faces record decline amid macro-economic conditions, the media reported on Monday. The Beijing-based company's Xiaodu unit, similar to Amazon's Alexa division, will launch its first smartphone next week, reports Bloomberg, citing sources.

Baidu already sells smart speakers and displays, and calls its DuerOS software a conversational artificial intelligence (AI) system. The introduction of a smartphone under Baidu would mark the first major Chinese entrant in the congested mobile market in years. According to the report, Baidu is adding a phone to its portfolio as it builds out a hardware ecosystem to complement its internet services.

According to Counterpoint Research, China's smartphone sales fell 5 per cent YoY in Q1 2023, reaching the lowest Q1 sales figure since 2014. However, this was an improvement from the double-digit YoY declines seen in previous quarters as well as a sign of bottoming out.

In Q1 2023, Apple recorded the biggest share in the China smart-



phone market, increasing sales by 6 per cent YoY in a declining market. Apple's market share in Q1 came to 19.9 per cent, its highest Q1 share since 2014, while its sales were also the highest Q1 sales since 2015. OnePlus' fast growth in the China smartphone market after its high-profile return to the market was the spotlight of Q1. Its sales increased 227 per cent YoY in Q1 with frequent and even aggressive launches of the OnePlus 11 and OnePlus Ace 2 and Ace 2V.

## 3one4 Capital raises ₹1,600 cr in new fund

Key investors in 3one4 Capital include India's three systemically important banks, five of India's largest listed banks by market cap, eight of India's leading mutual fund operators

BENGALURU

BENGALURU-BASED early stage venture capital firm, 3one4 Capital, on Monday said it has closed its fourth early-stage fund (sixth fund overall) at \$200 million (about Rs 1,600 crore).

The fund was vastly oversubscribed within a timeframe of 2.5 months since the inception of the raise process, said the VC firm.

"We are building 3one4 Capital to be the leading Indian home-grown venture capital firm, and this requires us to set an example of decadal discipline and consistent performance," said Pranav Pai, Partner, 3one4 Capital.

"We can now continue to direct more meaningful capital to discover the next set of generational tech leaders from India," he added. Although Fund IV of 3one4 Capital was oversubscribed to \$250 million (Rs 2,000 crore), the firm has decided to adhere to its disciplined model and has reduced the accepted amount to \$200 million in order to maintain the fund's intended size.

In total, the firm will manage Rs 3,710 crore (\$510 million) of committed capital and over Rs 6,000



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crore (\$750 million) in assets under management. The cumulative market cap of the companies in the portfolio is over \$7.5 billion (Rs 60,000 crore).

Key investors in 3one4 Capital include India's three systemically important banks, five of India's largest listed banks by market cap, eight of India's leading mutual fund operators, leading US university endowments, global sovereign funds, global corporations and insurance companies, leading corporations and a selection of India's largest family offices.

The first close of Fund IV was completed in March 2023, and over

five deals have already been approved or invested in. The final close is expected by the end of Q1 FY 2023-24. 3one4 Capital plans to continue its early-stage strategy, focusing on sectors such as consumer internet, SaaS, fintech, and Enterprise and SMB digitisation, while increasing investments in newer areas such as digital health, climate tech and more.

"We will double down on India-specific businesses, given our lessons from market leaders such as Licious, WeRize, and KukuFM, and will remain bullish on India's consumption patterns," said Anurag Ramdasan, Partner, 3one4 Capital.

## Google Meet lets admins provide background pics

This will allow users to easily select an image that properly represents their company's specific brand and style

SAN FRANCISCO

TECH giant Google has announced that it is rolling out new features to its video-communication service Google Meet, including the ability to allow admins to provide custom background images for their users.

"We've heard from our users that having backgrounds that match your brand guidelines are important for visual polish during critical meetings," the tech giant said in a Workspace Updates blogpost on Tuesday.

With the new feature, admins can provide a set of images for the

"background replace" feature in Google Meet. This will allow users to easily select an image that properly represents their company's specific brand and style.

Also, the tech giant is rolling out "External" labels for Meet participants. "Users will see a label in the top-left corner of their meeting screen indicating that participants who are external to the meeting host's domain have joined the meeting," the company said. Meanwhile, last month, the tech giant had launched several new 360-degree video backgrounds for Meet users on mobile for both iOS and Android.



## Twist Bioscience lays off 270 staff

SAN FRANCISCO: Leading biotechnology company Twist Bioscience Corporation has announced to lay off 270 people, or about 25 per cent of its workforce, as it aims to accelerate its path to profitability.

The company enables customers to succeed through its offering of high-quality synthetic DNA using its silicon platform. Twist said it will focus resources on the support of key commercial and development opportunities that have the potential to deliver significant return on investment.

"Twist conducted a comprehensive review of the business and is resizing many teams throughout the organisation and reducing its workforce by approximately 270 employees, or about 25 per cent," it said while delivering its fiscal second quarter 2023 financial results.

The biopharma team has been resized to focus on revenue-generating partnerships and Twist said it will moderate its investment in DNA data storage while maintaining its competitive lead.

"We reported a strong quarter overall, breaking the \$60 million revenue threshold for the first time and exceeding our guidance," said Emily M Leproust, CEO and co-founder of Twist Bioscience.

## New smart surgical implant coating can prevent infection

In study, detailed in journal Science Advances, the coatings prevented infection in live mice and mapped strain in commercial implants applied to sheep spines to warn of various implant failures

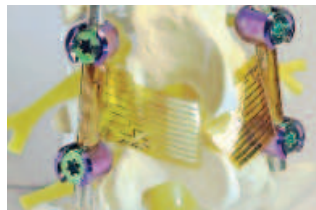
NEW YORK

US researchers have developed a new "smart" coating for surgical orthopaedic implants which can monitor strain on the devices to provide early warning of implant failures while also killing infection-causing bacteria.

The coatings, developed by a team at the University of Illinois Urbana-Champaign, integrate flexible sensors with a nanostructured antibacterial surface inspired by the wings of dragonflies and cicadas.

In the study, detailed in the journal Science Advances, the coatings prevented infection in live mice and mapped strain in commercial implants applied to sheep spines to warn of various implant or healing failures.

"This is a combination of bio-inspired nanomaterial design with flexible electronics to battle a complicated, long-term biomedical problem," said Qing Cao, Professor of materials science and engineering at the varsity. Both infection and device failure are major problems with



orthopaedic implants, each affecting up to 10 per cent of patients, Cao said.

Several approaches to fighting infection have been attempted, but all have severe limitations, he said. "Biofilms can still form on water-repelling surfaces, and coatings laden with antibiotic chemicals or drugs run out in a span of months and have toxic effects on the surrounding tissue with little efficacy against drug-resistant strains of bacterial pathogens."

Taking inspiration from the naturally antibacterial wings of cicadas and dragonflies, the team created a thin foil patterned with nanoscale pillars like those found on the insects' wings. When a bacterial cell attempts to bind to the foil, the pillars puncture the cell wall, killing it.

"Using a mechanical approach to killing bacteria allowed us to bypass a lot of the problems with chemical approaches, while still giving us the flexibility needed to apply the coating to implant surfaces," said Gee Lau, a pathobiology professor, at the varsity.

On the back side of the nanostructured foil, where it contacts the implant device, the researchers integrated arrays of highly sensitive, flexible electronic sensors to monitor strain. This could help physicians watch the healing progress of individual patients, guide their rehabilitation to shorten the recovery time and minimise risks, and repair or replace devices before they hit the point of failure, the researchers said.

To test their prototype devices, the team implanted the foils in live mice and monitored them for any sign of infection, even when bacteria were introduced. They also applied the coatings to commercially available spinal implants and monitored strain to the implants in sheep spines under normal load for device failure diagnosis.

## Apple Watch saves woman's life in US

After collapsing because of a major heart problem, the woman's Apple Watch had triggered an automatic emergency call through its Fall Detection feature

SAN FRANCISCO

A US woman's Apple Watch Fall Detection features helped her get medical attention after collapsing because of a major heart problem.

A Reddit user described an incident involving their mother's heart in which the Apple Watch aided in obtaining prompt treatment. The story, as told by u/xanderperry on r/Apple, describes how the Reddit's mother felt a pain in her chest while on a business trip out of state. She fell face-first to the ground after texting a friend in the same hotel about her concerns.

"My mom was on a business trip in another state and staying in a hotel. She started to feel a pain in her chest and grew concerned. She texted her friend who was also at the hotel and asked her to come to her room. Immediately after this, she collapsed to the floor face first," the Redditor said in a post.

Within minutes, the friend rushed back to her room and dialled 911 (an emergency number



for help in the US), but was informed that an ambulance was already on the way. It was later revealed that the Apple Watch had triggered an automatic emergency call through its Fall Detection feature.

The mother was taken to the hospital where doctors diagnosed her with a ruptured aorta. After undergoing surgery, she survived, and upon her recovery, she shared that her Apple Watch had played a crucial role in summoning help in her time of need.

Although the Apple Watch includes heart rate detection features, such as the ECG since the release of the Apple Watch Series 4, it is important to note that the company has made it clear that the feature is not capable of detecting a heart attack.

## Android's Nearby Share now available globally for Windows

SAN FRANCISCO: After its initial release earlier this year, Google has now made Android's Nearby Share feature available for Windows PCs to nearly all countries worldwide, signalling a significant expansion in its accessibility.

"We are very excited to announce that Nearby Share for Windows is now available worldwide, so even more of your devices can work better together," Google said in a blogpost.

Through Nearby Share, Android users can share files wirelessly with their PCs, whether they are desktops or laptops, and through Android's native menus. Google initially limited the feature to only a few countries, with a primary focus on the US.

Now, according to Google's support page, Nearby Share Beta for Windows PCs is available in the US and most countries globally, however, support is currently not available for Cuba, Iran, North Korea, and Syria.



## How gene-edited foods shaping the future of our food systems

Although GMOs and gene-edited foods have been in circulation for almost three decades, research in this space continues to deliver breakthroughs

## THE POLITICA Nothing political about it

KAREN MASSEL

ADVANCES in genetic engineering have given rise to an era of foods – including genetically modified organisms (GMOs) and gene-edited foods – that promise to revolutionise the way we eat. Critics argue these foods could pose risks to human health and the environment. Proponents point to their potential for enhancing yields, reducing food waste, and even combating climate change.

What are GMOs and gene-edited foods? GMOs and gene-edited foods aren't the same. GMOs are organisms whose genetic material has been artificially altered by inserting a piece of foreign DNA. This DNA may be synthetic in origin or sourced from other organisms. Gene editing involves making precise changes to an organism's genome without the integration of foreign DNA elements. Using techniques such as CRISPR/Cas, scientists make precise "cuts" in the DNA to create new genetic variation. Unlike with GMOs, this introduces only minor modifications,

which are indistinguishable from natural mutations. Although GMOs and gene-edited foods have been in circulation for almost three decades, research in this space continues to deliver breakthroughs. These technologies are being applied to provide a range of benefits, from improved nutrition in food, to reduced food waste and increased crop tolerance against climate stresses.

What are the concerns? The major criticisms of GMOs are related to the overuse of specific herbicides. GMOs are mainly used to produce crops that are herbicide-resistant or produce pesticides. Farmers can then use herbicides on those crops to control weeds more effectively, without the plants themselves dying. This leads to higher yields on less land, and often with less chemicals used overall. However, these crops rely on the use of said lab-made chemicals. And although the government regulates them, ethical and safety debates continue. People raise concerns over potential long-term health impacts, impacts on biodiversity and ecosystems, and the increased corporate control over agriculture. Con-

cerns generally aren't related to the actual manipulation of the plants' DNA.

Is genetic modification itself unsafe?

When it comes to the food we eat, how much do we really know about its DNA? Even among experts with genome-sequencing information, most have only one or a few sequenced "reference" varieties, and these often aren't the same as the plants we eat. The fact is, we don't really understand the genomes of many plants and animals we eat. So there's no reason to suggest tweaking their gene sequences will make consumption harmful. Moreover, there's currently no evidence regulator-approved GMOs or gene-edited foods aren't safe for human consumption. In regards to food safety, one valid concern would be the potential creation of new allergens: proteins within the crop the body recognises and creates an immune response to. But it's important to remember many foods we eat are already allergenic. Common examples include wheat, peanuts, soy, milk and eggs. Some common foods are even toxic if consumed in large quantities or without appropriate preparation, such as rhubarb leaves, raw cassava, raw kidney beans and raw cashews. Ironically, researchers are using gene editing to work towards eliminating proteins that cause allergies and intolerances. Gluten-free wheat is one example.

GMOs and gene-edited foods are widespread

Due to inconsistent rules about labelling GMOs and gene-edited foods around the world, many consumers may not realise they're already eating them.



For example, the most widely used enzyme in cheese-making, rennet, is produced from a GMO bacterium. GMO microbial rennet produces a specific enzyme called chymosin, which helps coagulate milk and form curds. Historically, chymosin was extracted from young cow stomachs, but in the 1990s scientists managed to genetically engineer a bacterium to synthesise it. GMOs and gene-edited cereal and oilseed products are also widely used in stockfeeds.

There is ongoing research to improve

feed through enhanced nutrition, and produce crops that will decrease methane emissions from cattle. When it comes to modifying animals themselves, ethical considerations must be balanced alongside potential benefits. In Australia, about 70 per cent of cattle are genetically polled (hornless). Having polled cows improves meat quality through less injury to meat, and is considered better for animal welfare. In the US, fast-growing genetically modified salmon has been approved for consumption. In a horticultural context, the genetically modified rainbow papaya stands out. It was developed in the late 1990s in response to a ringspot virus outbreak that nearly wiped out the global papaya industry. Researchers created the virus-resistant "transgenic" papaya, which now makes up the majority of papayas consumed worldwide.

In terms of boosting nutritional content, "golden rice" biofortified with Vitamin A (GMO) is being cultivated in the Philippines, as are tomatoes biofortified with Vitamin D (GE) in the United Kingdom, and GABA-enriched tomatoes (GE) in Japan. Research is also being done to create non-browning mushrooms, apples and potatoes. A simple gene edit can help inhibit the browning oxidation reaction, leading to a longer shelf-life and less food waste.

Regulation in Australia and New Zealand

So why don't you see non-browning mushrooms at your local supermarket? In Australia, the Office of the Gene Technology Regulator regulates GMOs. It has approved four GMO crops for cultiva-

tion: cotton, canola, safflower and Indian mustard. However, many more are imported for food ingredients (including modified soy, cottonseed oil, corn and sugar beet) and stockfeed (canola, maize and soy). Gene-edited foods can be cultivated without any regulatory restrictions or labelling in Australia. The Gene Technology Act 2000 deregulated these products in 2019. On the other hand, New Zealand's Environmental Protection Authority has maintained regulatory restrictions on both gene-edited foods and GMOs. Divergent definitions have led the bi-national agency Food Standards Australia New Zealand (FSANZ) to adopt a cautious approach, regulating gene-edited foods and feeds as GMOs.

The lack of alignment in definitions in Australian has confused producers and consumers alike. FSANZ has said it will continue to monitor developments in gene-editing technology, and will consider reviewing its regulatory approach. Responsible research Both GMOs and gene-edited foods offer great promise. Of course there are valid concerns, such as the potential to create new allergens, unintended consequences for ecosystems, and growing corporate control over food. But these can be addressed through responsible research and regulatory frameworks. Ultimately, the development of future foods must be guided by a commitment to sustainability, social justice and scientific rigour.

(The author is a Research Fellow, Centre for Crop Science, The University of Queensland)