FEBRUARY /MARCH 2022

HONG KONG'S 50 RICHEST

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50 OVER 50 ASIA

FLEXPORT

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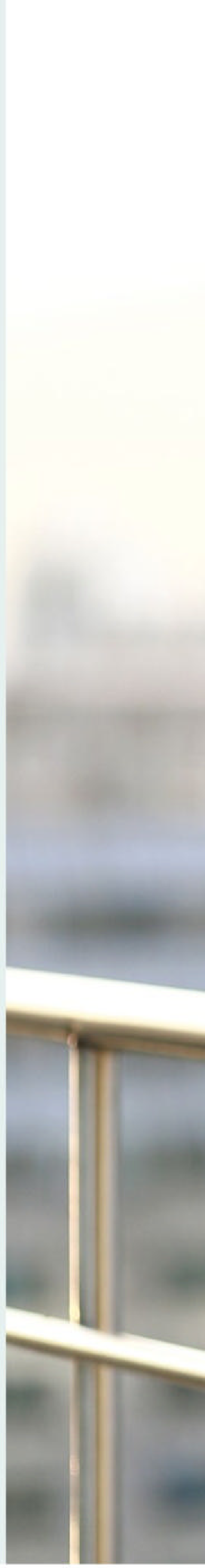

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INSIDE

COVER CREDIT Jeffrey Perlman: *Photograph by Darren Gabriel Leow for Forbes Asia*


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Living with the Virus

The idea of living with the virus is now becoming commonplace. There's a growing consensus worldwide that zero-Covid-19 policies, while laudable, may no longer be a feasible goal, especially given their high economic and other costs. Instead, healthcare authorities, governments and others in the global community have begun to frame Covid-19 as an endemic rather than pandemic threat. Minimizing and managing the impact of the virus, rather than eliminating it, is the emerging approach.

But a world in which Covid-19 is part of the woodwork doesn't mean the changes wrought by the pandemic will fade away. These shifts, such as hybrid work, the digitalization of everything and e-commerce's rise, show signs of becoming permanent fixtures.

In the cover story on Jeffrey Perlman and ESR, the listed real estate manager's fortunes have been on the rise due to the company's focus on investing in the physical assets that support the e-commerce boom in the Asia-Pacific region. These investments center around property such as data centers, logistic hubs and warehouses. ESR has reaped huge benefits from this shift. Its challenges, however, may come from more conventional sources, such as higher interest rates or China's real estate woes sparking a wider Asian property downturn.

Singapore-based FinAccel's Kredivo is also benefiting from a change that occurred during the pandemic, the decline in credit card use in Indonesia in favor of buy now, pay later services. Kredivo now claims to be the top BNPL outfit in Indonesia and is expanding its service across Southeast Asia.

A second corollary of living with the virus is the world's focus can shift back to more routine issues. This year's tally of Hong Kong's 50 richest illustrates this point. Even as Hong Kong sticks with its zero-tolerance approach to the virus, other issues, such as rising property prices, are taking center stage once again.

This real estate boom helped boost the fortunes of its longtime two richest men, Li Ka-shing and Lee Shau Kee. Another typical non-pandemic topic is the IPO and SPAC boom—a trend that contributed much wealth to at least three members of the Hong Kong rich list.

Finally, this issue has the inaugural 50 Over 50 Asia list, featuring a generation of women from across Asia who are at the top of their game, proving success has no age limit. Some on the list were directly affected by the pandemic, such as those in the tech or healthcare industries.

Will 2022 be remembered as the year where the battle to defeat Covid-19 was replaced with an uneasy truce with it? What's clear is that one of lasting legacies of this global outbreak are the changes fueled by it in areas far beyond healthcare. Even as we all learn to live with the virus, the pandemic's concomitant effects on Asia look likely to keep growing in importance. As always, all comments welcome at editor@forbesasia.com.

JUSTIN DOEBELE
EDITOR, FORBES ASIA

FACT & COMMENT

By Steve Forbes, Editor-in-Chief

More Economic Malpractice Coming

Will the Biden Administration impose price controls to fight inflation?

To avoid blame for rising prices, President Biden and his team are faulting greedy businesses, primarily meat processors, oil-and-gas producers and pharmaceutical companies. There is growing talk that if inflation doesn't ease soon, the White House may impose "temporary" price controls on voter-sensitive products such as beef, chicken, gasoline, heating oil and various prescription drugs.

This would be disastrous. Several thousand years of experience have demonstrated that controls don't work. They make things worse, because they attack the symptoms, not the underlying cause, which is the devaluing of the currency.

Governments always look for inflation scapegoats: The Roman Empire blamed Christians; medieval Europe faulted witches; President Richard Nixon pointed his finger at currency speculators and Arab oil producers for causing the Great Inflation of the 1970s. But Nixon precipitated that devastating crisis when he "temporarily" took the U.S. off the gold standard in 1971 and imposed controls on prices and wages.

By artificially suppressing prices, controls increase demand for products while hurting the creation of more such goods, because producers can't cover their growing costs.

Take a favorite White House target, meat. Demand for meat around the world has taken off during the pandemic. The unexpected surge initially sent prices up, which is why profits for meat processors temporarily went up. This will change, however, as production costs increase.

The cost of feed is moving higher. The cost of transportation is rising because of a shortage of drivers, and prices for fuel are significantly higher. Other materials like packaging are more costly. Then there are the serious labor shortages. Wages are going up, which also means elevated prices.

Those juicier profits won't be lasting.

Such is the historic pattern for certain businesses in the early stages of inflation.

Nonetheless, the administration is imposing more regulations and is ready to spend $1 billion to subsidize small regional processors to promote "competition."

Oil-and-gas companies are always a popular political bogeyman, never more so than during inflationary periods like this. The Biden Administration came into office attacking the industry, canceling pipelines, restricting exploration and production and making it clear that the president's long-term goal was to send these companies to the corporate graveyard. It's no surprise that gas prices took off like a rocket.

Now the White House is begging Russia and OPEC to boost production and is threatening domestic producers.

Price controls on prescription medicines would kill innovation, which is what has happened in Europe. The continent's pharmaceutical companies were once a font of new drugs, but unable to recover the high costs of developing medications and medical devices, the European pipeline dried up.

Before it resorts to controls, expect the White House, along with the Justice Department and other government agencies, to harass targeted companies and their executives with civil and even criminal actions.

President Biden and his cohorts ignore the root causes of the current inflation: shortages made worse by misbegotten pandemic policies and the Federal Reserve having created too much money.

Will Cryptos Upend Government Money Monopoly?

If you want to see the future of cryptocurrencies, look at Turkey. Its currency, the lira, is plunging in value, down 40% against the dollar since September. The official inflation rate—which the Turks don't trust—is 36% and rising. That's why desperate people there are diving into cryptocurrencies. Bitcoin is highly volatile and has taken a hit recently, but Turkish buyers feel its long-term value is upward, as it has been since its inception.

What's really interesting—and what should give central bankers everywhere pause—is that the favorite crypto in Turkey currently is Tether. Why? Because Tether is a "stablecoin," a class of crypto that's tied to a specific asset—in Tether's case, the U.S. dollar.

A stablecoin, properly structured and transparent about the actual assets backing it up, will become an alternative to government money. Its very stability makes it usable for commercial transactions, especially ones involving long-term contracts.

Sensing just such a threat, Turkey's government last year banned cryptocurrencies as a form of payment. But such prohibitions will ultimately fail. The attraction of cryptos is precisely that they avoid traditional banking and financial payment systems. People prize their speed and the privacy they offer from greedy governments.

When people don't trust their domestic currencies, they find more trustworthy substitutes. That's why the dollar, for all its troubles, is still preferred around the world to local junk currencies. Over half of all dollars in circulation are being used outside the United States.

The situation in Turkey is particularly instructive. Strongman Recep Tayyip Erdoğan's central bank has been printing too many lira. The basic money supply in Turkey has increased 50% in the past year. Instead of cooling off the printing presses, Erdoğan has scapegoated food vendors, evil foreigners and others, while demanding that the Turkish central bank lower interest rates. Similar to governments for thousands of years, Turkey's is attacking the symptoms, not the real causes, of its inflationary problems.

It's no wonder that two-thirds of bank deposits in Turkey are denominated in foreign currencies, primarily the dollar and the euro. The fear is that a desperate government may seize those deposits and replace them with Turkish lira.

To shore up the beleaguered lira, Turkey this past December introduced a scheme whereby in special lira savings accounts the government would guarantee to make up any depreciation of the lira against the dollar. But again, Turks are increasingly skeptical of such government promises. Hence the growing move into cryptocurrencies.

Turkey is an extreme example regarding inflation. But the U.S. and other countries are also moving—albeit more slowly—in the wrong direction.

The process of stable cryptos challenging governments' monopoly of money is just beginning.

RESTAURANTS: GO, CONSIDER, STOP

Edible enlightenment in New York from our eatery experts and colleagues Monie Begley, Richard Nalley and Randall Lane, as well as brothers Bob, Kip and Tim.

● JoJo
160 East 64th Street (Tel.: 212-223-5656)

JoJo has been a Three Star in our All-Star Eateries since Jean-Georges Vongerichten opened it in 1991. JoJo's recent renovation has left it airy, light-filled and comfortable. Start with the delicate peekytoe crab dumplings or the spicy tuna tartare in lettuce cups. Then try two incomparable classics: the crispy-skin organic chicken surrounded by thin fried onion rings and potato skins, or the juicy, peppercorn-crusted beef tenderloin with potato gnocchi and Brussels sprouts. Don't leave without tasting the delicious carrot cake or the butterscotch pudding with caramel and crème fraîche.

● Le Baratin
26 Greenwich Ave., between Sixth and Seventh Avenues (Tel.: 212-933-1080)

Excellent bistro fare in a fun West Village spot. The French-speaking staff further the illusion of being at a sidewalk café on the Left Bank. Steak frites with a peppercorn sauce is as good as anything you could find in Paris; ditto the magret de canard with mashed potatoes and green beans. The crème brûlée is great, but the fondant au chocolat is even better.

● Eleven Madison Park
11 Madison Ave., between 24th and 25th Streets (Tel.: 212-889-0905)

New York's temple of pace-setting, contemporary haute cuisine reopened with a controversial plant-based tasting menu of eight to ten courses for $335 per person, paid when reserving. Many dishes reflect a strong Asian influence, using fermented ingredients, and seemingly all add umami to their flavor profile. The result is a certain sameness to the succession of individually delicious and beautifully presented courses. Standouts include matsutake (rice pudding with pine and ginger), tonburi (squash with sumac) and cabbage with pistachio and fermented mint. The bread, a flaky, savory swirled roll, served with sunflower-seed "butter," provides a welcome and delightful change of pace. It is an extraordinary experience, but the parts may be greater than the sum.

● Avena
22 East 66th Street (Tel.: 646-596-8447)

An austere but pleasantly furnished white interior with well-spaced tables that allow for easy conversation, this is a happy find. The Dover sole with tender Brussels sprout leaves, a potato puree and a lovely sauce, is sublime. The l'aragosta poached in olive oil with a side of sautéed spinach is delicious. The tiramisu with mascarpone and candied orange sorbet and the creamy, crunchy vanilla millefoglie are both as good as you can get. The fare is first-rate, but the pace of the service is glacial.

● Grand Salon
Baccarat Hotel, 28 West 53rd Street (Tel.: 212-790-8867)

The beautiful, high-ceilinged room on the Baccarat Hotel's second floor abounds in chandeliers and sconces created by the eponymous firm and gives the space a feeling of restrained luxury. The branzino is perfectly prepared and presented, and the Black Angus burger with raclette cheese, tangy pickles and tomatoes is very tasty. The crème brûlée rates stars, but the chocolate temptation is too milk-chocolatey. While the food prices aren't unexpected, cocktails start at $30, and the least expensive glass of wine is $22. If money is no object, this is a lovely place to relax and enjoy a very good meal.

● One White Street
1 White Street, just off West Broadway (onewhitestreetnyc.com)

One White Street serves up solid farm-to-table fare in a cozy, casual space complemented by an extensive wine list. There are two distinct menus: the à la carte "Downstairs" for reservations and walk-ins, and "Upstairs" for a six-course tasting menu by reservation only. For starters, the Brussels sprout salad with buttermilk dressing is satisfying, if not inspired, and the smoked foie gras accompanied by a Parker House roll is silky and savory but a bit salty. The mains are a step up: Roasted turbot with lemon beurre blanc and the half roast duck with mashed potatoes topped with matchstick potatoes are well-prepared and attractively presented. This is a popular place, so reserve well in advance.

● King
18 King Street, at the corner of Sixth Avenue (Tel.: 917-825-1618)

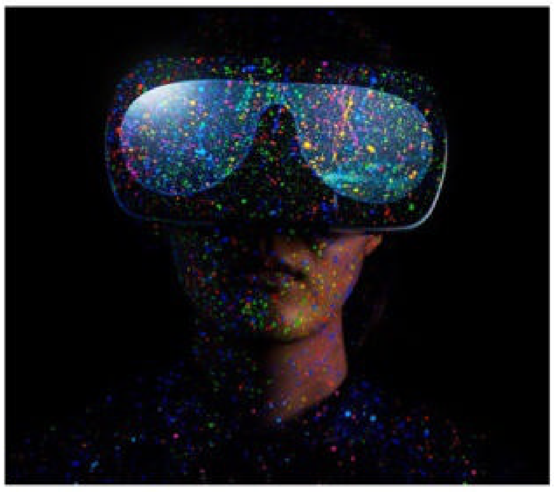
With influences from southern France and Italy, this stylish restaurant has a limited menu that changes daily. Clams alla padella in a crème fraîche broth with a crusty big crouton is a sublime start to a meal. Follow this with a fresh, thick trout filet with boiled potatoes in a creamy sauce. More substantial but equally delicious is the pork chop with peach slices and fava beans. Have the luscious tarte tatin, made to order and worth every calorie.

● Scalinatella
201 East 61st Street (Tel.: 212-207-8280)

This basement-level Italian restaurant is packed. Stracciatella is the perfect starter for a cold night, and the grilled octopus special is delicious. The chicken paillard is pounded velum-thin and perfectly grilled. The heavenly mushroom pappardelle with a dollop of extra pepper flakes and plenty of Parmesan disappears quickly. It would be hard to find a better tiramisu with which to finish off a meal.

By Rich Karlgaard

The Two Metaverses



Last year, few were discussing the metaverse. Now, if you don't talk about it, you're seen as old and creaky. Fans peg the metaverse opportunity in the trillions. I was on a Zoom call recently and a breathless booster claimed the metaverse would be an $8 trillion market by 2030. He gave no reason except that his sons were making money in digital art. A wizened contrarian friend, meanwhile, hears metaverse and sees a bubble forming. He looks for ways to short the hype.

History says the metaverse will be big—just like the oft-bubbly internet—but don't panic. You have time. A panicked response is worse than no response. Words matter, and so before you commit energy and capital to the metaverse, make sure you know what the metaverse means. Can you define it?

What does the world's top large company CEO, Microsoft's Satya Nadella, say about the metaverse? He defines it in the simplest and shortest number of words possible. The metaverse, Nadella says, is two things:

- A digital depiction of the physical world
- A physical depiction of the digital world

Let's break this down. A **digital depiction of the physical world** is already being done. Tech managers call it a digital twin. Think of any big, high-capital-cost physical project—an oil and gas pipeline, electricity plant, chip factory, a pharmaceutical supply chain. Such work is doomed to fail without timely data—a full picture of what is going on. This is not new. Four decades ago, Walmart leveraged a primitive digital twin strategy using bar code scanners and IBM mainframe computers to see what was being sold. A manager at Walmart headquarters in Arkansas could make adjustments at a store in Colorado. Walmart's competitors, like Sears and Kmart were slower in building digital awareness.

The digital twin idea is not new. It just keeps advancing with each new generation of semiconductors, sensors, wireless communications, software, graphics, predictive analytics and powerful handheld computers. Think of this as the business metaverse. It is currently dominated by large enterprise tech companies such as Adobe, Microsoft, Nvidia, SAP and others.

Physical depiction of the digital world—the consumer metaverse—is what's getting the hype, of course. Facebook changed its corporate name to Meta in October. Its aim is to migrate its social media users to a 3D world of avatars, fantasy games, digital art, cryptocurrency and the like. Facebook has spent billions building its vision of the metaverse. But CEO Mark Zuckerberg has so far failed to excite his investors.

Here's a speculation: Meta won't lead the consumer metaverse. To see the consumer tech future, you might first look to Asian, Southeast Asian and Indian companies. Don't overlook gaming, entertainment and sports companies. (One day after I wrote this column, Microsoft announced a $69 billion cash offer for U.S. game developer Activision Blizzard.)

My reasoning is twofold. I base it on observing four decades of technology shifts. One, consumer tech revolutions are usually led by younger companies with younger users. (Business tech revolutions, by contrast, are generally led by people 35 to 60; think of container shipping, relational databases, cloud computing, 5G wireless.) Meta looks more like an infrastructure company. It has mastered core technologies like cloud computing and artificial intelligence (with plans to deliver the world's fastest supercomputer this year). Its executives are seasoned and have more to lose than win. Mark Zuckerberg is 37; his direct reports are the same or older—and rich.

Two, consumer revolutions require fanatic users. Apple's iPhone was that. ByteDance's TikTok is that. Meta is ubiquitous but does not inspire passion. Younger companies with fan bases will show the way to the consumer metaverse—less mature than U.S. technology markets and more like younger Asian, Southeast Asian and Indian consumer markets it looks to me. F

Rich Karlgaard is editor at large at *Forbes*. As an author and global futurist, he has published several books, the latest of which is *Late Bloomers*, a groundbreaking exploration of what it means to be a late bloomer in a culture obsessed with SAT scores and early success. For his past columns and blogs visit our website at www.forbes.com/sites/richkarlgaard.

YAGI STUDIO/GETTY IMAGES

LEVERAGING TECHNOLOGY TO DRIVE SUSTAINABILITY

PETRONAS taps technology to develop clean energy solutions and achieve carbon reduction goals.

PETRONAS has been increasingly adopting technology to drive its sustainability goals over the past two decades, underscoring the importance of the energy giant's sustainability agenda in everything it does to safeguard people, planet and profits for generations to come.

The company continues to institute positive changes by elevating its operational excellence and optimizing costs, while investing boldly in technologically driven solutions. These investments will shape the future of energy as the industry gradually transitions into a lower carbon economy through the reduction in greenhouse gas emissions.

PETRONAS redefines the future of energy with its hydrogen-derived energy solutions.

Hydrogen Energy Technology

While fossil fuels remain as a key source of energy around the world, PETRONAS is redefining its offerings by investing in hydrogen-derived energy as a cleaner source of fuel.

Today, hydrogen is one of the many complementary clean energy vectors that can be transformed into sustainable energy. This helps to protect the environment as hydrogen-derived energy lessens dependency on fossil fuels, lowers pollution and cuts greenhouse gases that are harmful to the earth.

Developing new solutions such as hydrogen-derived energy demonstrates the company's commitment to sustainability. To drive this new journey, PETRONAS Hydrogen was established in 2020 under the group's Gas and New Energy business division, which aims to become an end-to-end solution provider of hydrogen.

PETRONAS' innovative technology produces Bio-MEG from palm biomass.

PETRONAS builds upon its experience in extracting blue hydrogen from its facilities and as a world-renowned reliable LNG supplier to expand its renewable energy portfolio and vast natural gas resources. The company has collaborated with Malaysia's hydropower suppliers to explore commercial production of green hydrogen by leveraging on Malaysia's rich and renewable natural resources.

PETRONAS has collaborated with both long-standing and new customers to develop a competitive hydrogen supply chain. Through these partnerships, PETRONAS is pursuing projects such as the optimization of blue and green hydrogen production and conversion of liquid hydrogen into ammonia or methylcyclohexane as a solution to store and transport hydrogen. With such projects, the company's continued engineering innovations as well as research and development capabilities, PETRONAS believes that it can provide clean and cost-competitive hydrogen solutions to its customers.

From Biomass to Energy

Another sustainable initiative PETRONAS is investing in is the world's first direct conversion technology, which converts palm biomass into renewable products. This innovative technology uses palm oil's empty fruit brunches, a sustainable material that does not interfere with food chain supply, to create Bio-MEG.

Driven by PETRONAS Chemicals Group Berhad (PCG), this initiative demonstrates PETRONAS' commitment to sustainability. The company has plans to create value by converting abundantly available biomass in Malaysia into a sustainable alternative feedstock, aimed at creating renewable chemical products for markets such as packaging, textiles, automotive and electronics. PCG will showcase these production capabilities through an integrated pilot facility in 2022.

As a progressive energy company, PETRONAS aims to reduce carbon emissions and is committed to be part of the solution to manage the impact of climate change by developing innovative solutions for generations to come. The company's diversified energy portfolio, along with its evolving new energy business, will provide a platform for cleaner energy solutions for a more sustainable future. ■

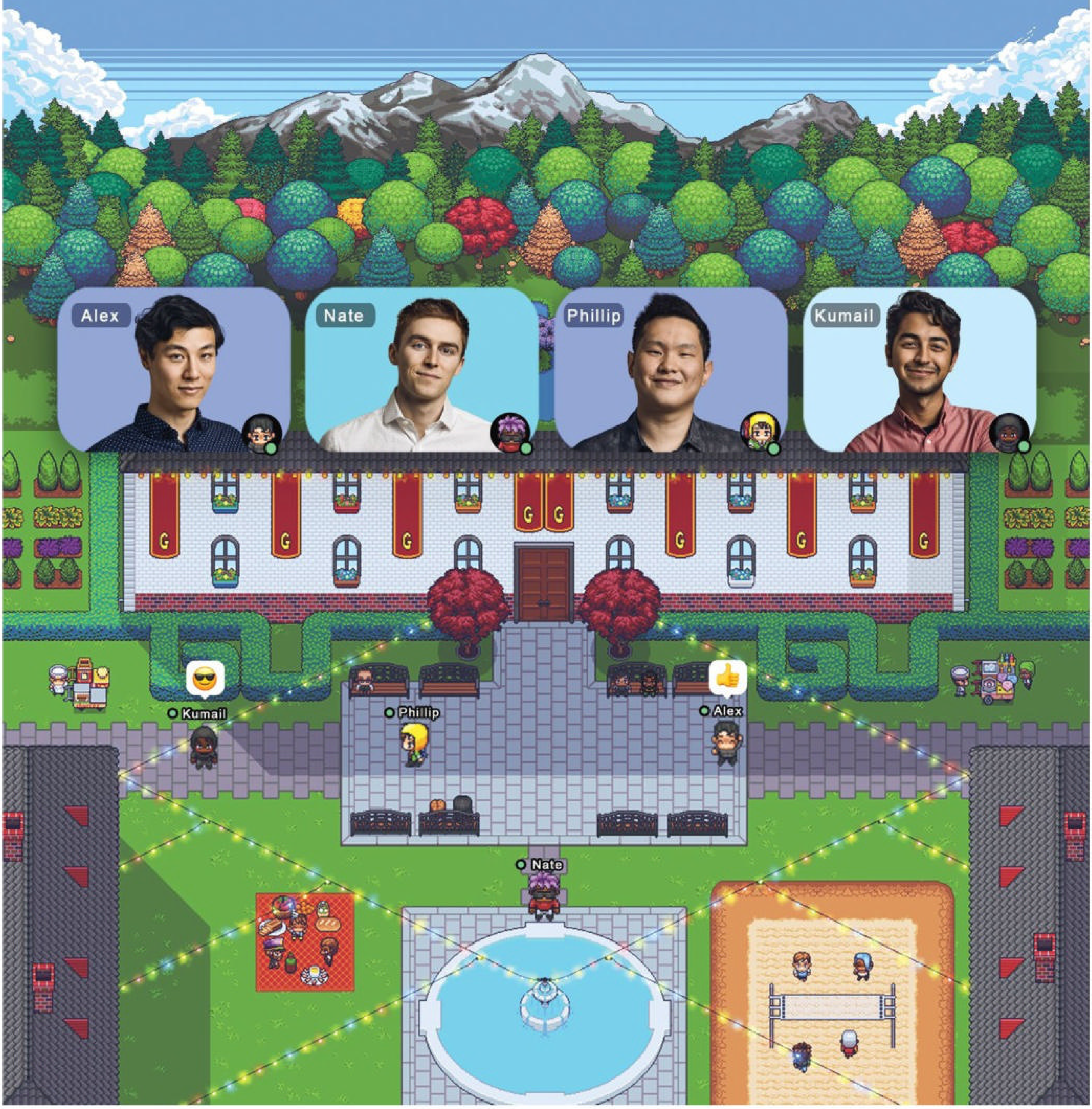
PETRONAS
www.petronas.com/sustainability

By **Kenrick Cai**

Photographs by **Ethan Pines** for Forbes

The Future Is Low-Res

What if the metaverse isn't some far-off sleek sci-fi virtual reality but rather the playful, human-scale eight-bit universe **GATHER** has already built?



(*From left*) Gather cofounders Kumail Jaffer (CTO), Alex Chen (Product), Phillip Wang (CEO) and Nate Foss (Engineering) didn't all physically meet during their first year. "We had no chemistry in person," Wang says of their first such session. "But we'd already built this whole company together."

W

When Phillip Wang was pitching Gather, his six-month-old startup, to VCs in late 2020, he would invite them up to the rooftop above his office. The space is a sweet spot to discuss a deal, illuminated by the neon green lights of a sprawling city framed by clouds in pink and orange hues. Best of all, he could brag to potential investors about the price. For a company Gather's size—25 employees at the time—it ran just $175 a month to rent the entire building.

That's because the office is virtual, existing entirely inside the app the company created. These days, with new coronavirus variants delaying many employees' return to physical spaces, 100,000 people make their daily commute by logging onto Gather's website. More than 15 million people have used it at least once—many for virtual conferences but also for birthday parties, rock concerts and weddings.

"A lot of people think about the metaverse as sci-fi, like it's five to seven years away," says Wang, whose words come tumbling out at triple speed. "They imagine these dystopian worlds owned by large tech companies." To the spiky-haired 23-year-old CEO, the metaverse is already here, and it's rather friendly and welcoming. Instead of a sleek alternate reality, Gather's virtual world is decidedly low-res, evoking the nostalgic feel of a 20-year-old Pokémon video game. Users move their 2D avatars around with their arrow keys, panning into and out of video chat conversations as they stroll past other folks. Whether it's simply a more interactive Zoom or a cornerstone of our collective future, Gather has the attention of Silicon Valley. Founded by four recent grads (all still 26 or younger) at the onset of the pandemic, the startup has rapidly grown to 75 employees and is backed by top-tier venture capitalists who have invested $77 million, most recently in November at a reported $700 million valuation. Gather declined to disclose revenue, but *Forbes* estimates it booked more than $10 million last year, its first full year of operation.

Gather's aesthetic is a throwback to Wang's youth in the Seattle suburbs, where he spent countless hours playing graphically unremarkable games like *Minecraft*. He was also obsessed with computers and math. His sophomore year of high school, he scored in the top 100 out of

70,000 Junior Math Olympiad participants. His senior year, he secured a yearlong machine learning job at nearby Microsoft and continued that precociousness at Carnegie Mellon University, graduating in three years.

After graduation, Wang and college buddies Kumail Jaffer and Cyrus Tabrizi were accepted into the prestigious Y Combinator incubator in 2019. The trio worked hard on their goal of building hardware to facilitate social connections. But they spurned the business side, even skipping "demo day," during which their peers pitched hundreds of prospective investors. "It was very formative to be pressured to do all that stuff and then realize it's not right for us," Wang says.

By May 2020, they had exhausted their $150,000 Y Combinator check. Wang and Jaffer proposed a detour toward more monetizable gatherings like academic conferences, which had shifted online. Tabrizi disagreed. Wang and Jaffer split off, launching Gather with MIT grads Alex Chen and Nate Foss, whom Wang had met during college internships. Intrigued by VR, the foursome scanned their bodies and replicated their physical environment online, spending eight hours a day working with headsets strapped to their faces. "That was when we realized this is still pretty far away," Wang says. "But we could kind of squint our eyes and see this whole idea of virtual worlds is going to be huge."

To quickly build an accessible environment, Gather reverted to well-established tech: keyboard, mouse and low-resolution pixel art on a web browser. They released the first version in May 2020. It spread quickly across colleges. A University of Chicago professor and students recreated their school so people could study together or meet up around campus; members of the physics faculty were soon discovered playing poker in a lounge. Silicon Valley leaders were quick to notice. Dylan Field, the 29-year-old founder and CEO of Figma, the $10 billion (valuation) design startup, reached out to Wang in November 2020, before the founders had even begun thinking about a business model. "He literally told me, 'I kind of don't know about this being a capitalistic enterprise,'" Field recalls.

Undeterred, he introduced Wang to a long list of VCs. Predictably, Wang prepared them for disappointment, saying: "You need to be ready for this to turn into Wikipedia," referring to the internet's best-known not-for-profit website. Sequoia Capital partner Shaun Maguire saw beyond Wang's hesitancy. "For [Gather's founders], it's a foregone conclusion that the metaverse is going to exist, so the question becomes: How do you make sure that it's done as well as possible?" says Maguire, who led the company's first funding round of $26 million in January 2021.

While startups usually spend a year or more leveling up to where VCs are comfortable investing again, Sequoia agreed to double down even before the first round was announced. "The company really inflected between January and March," Maguire says. While optimizing its video code, Gather simultaneously quadrupled monthly revenue to $400,000 via customers like Coca-Cola and Amazon, which built a replica of the fantasy world from *The Wheel of Time*, its hitstreaming show. Sequoia and Index Ventures led the company's $50 million second round. Y Combinator and Figma's Field are also investors.

"Despite the rhetoric of Silicon Valley to 'move fast and break things,' very few companies actually move that fast," Field says. "In terms of building the team and building culture, they were doing in six months what we did in five years."

From his current temporary home in Southern California, Wang plans to travel nomadically this year, spending months in Pittsburgh, Boston, London and Switzerland, all while working virtually from Gather's headquarters. One day, he muses, people might shop in digital malls in his app or share a movie night with friends in another country. Or maybe, Wang ponders, Gather will become an infrastructure company, helping others build these experiences. Whichever direction his 21-month-old startup takes next, it's certain to happen quickly. For the nascent builders of the metaverse, Field's five-year horizon is a death knell. F

BEST IN CLASS

Want to get your tech startup into Y Combinator, the prestigious accelerator program? Its acceptance rate is below 2%—it's twice as easy to get into Stanford, MIT or Juilliard. Membership has its perks, though: 150 of the 3,000 companies it has funded since 2005 are worth more than $150 million. More than 60 are unicorns. Below, the five most successful Y Combinator graduates, in terms of valuation.*

Company: **STRIPE** • *Value:* **$95 BIL**
Founders: John Collison, Patrick Collison

AIRBNB • **$90 BIL**
Nathan Blecharczyk, Brian Chesky, Joe Gebbia

INSTACART • **$39 BIL**
Brandon Leonardo, Apoorva Mehta, Max Mullen

COINBASE • **$38 BIL**
Brian Armstrong

DOORDASH • **$35 BIL**
Andy Fang, Stanley Tang, Tony Xu

****Source:** *Y Combinator. Values have been adjusted to reflect market capitalization as of Jan. 26, or most recent funding round.*

Jurin Laksanawisit
Thailand's Deputy Prime Minister and Minister of Commerce

THAI GOVERNMENT ROLLS OUT POLICIES TO BOOST ECONOMIC GROWTH POST PANDEMIC

With government supporting domestic consumption and promoting exports, Thailand's economic growth is poised to accelerate.

Despite the challenges of the Covid-19 pandemic, the Thai economy is on track to expand 3.9% this year after posting a modest 1% growth in 2021 as consumption and business activities return to pre-pandemic levels, according to the World Bank.

The Southeast Asian economy has come a long way since contracting 6.1% at the height of the Covid-19 outbreak in 2020, thanks to the government's initiatives to bolster economic growth by encouraging domestic consumption, supporting local entrepreneurs and promoting exports.

With the policies in place, the twin pillars of the economy: domestic consumption and exports are poised for even higher growth. Exports are predicted to grow by at least 5% this year, while private investments will likely increase between 4% and 6%, according to the Ministry of Commerce.

Thailand will apply the bio-circular green (BCG) economic model in agriculture and food; health and medical; energy, materials and biochemicals; as well as tourism and creative economy.

"We are promoting the consumption of Thai products to build confidence and also to encourage the use of our products as raw materials to create added value," says Deputy Prime Minister and Minister of Commerce Jurin Laksanawisit, adding that Thailand will be focusing on programs that have already proven themselves successful.

The government is also bolstering the new economy by promoting and developing online marketing platforms. "We are developing entrepreneurs to take advantage of the platform economy and online commerce," Jurin says.

To stimulate innovation and encourage younger generations to become involved in the economy, "we will continue our initiative on human resource development for students to build more entrepreneurs," says Jurin. "One of our programs, from Gen Z to CEO, focuses on helping the youth become entrepreneurs. In 2021 we had 20,000 participants and we aim to have another 20,000 this year."

To build sustainable growth, the government is promoting environment friendly economic development using the bio-circular green (BCG) economic model, which leverages technology and innovation to add value to goods and services while mitigating negative environmental and sustainability impacts. The BCG model will be applied in agriculture and food; health and medical; energy, materials and biochemicals; as well as tourism and creative economy.

To support exports, Thailand will foster closer cooperation with members of Association of Southeast Asian Nations as well as Asia-Pacific Economic Cooperation. "We look forward to closer cooperation with APEC member countries as Thailand will host APEC this year," Jurin says. "We are also redoubling efforts to expedite trade between Thailand and other markets, including China, the US, the EU, countries in the Middle East and Russia."

In addition to bilateral trade agreements, "we will also be working on more sub-country trade agreements," says Jurin. Thailand will continue to forge trade agreements with markets in state, provincial or regional areas instead of whole countries. After signing sub-country trade deals with Hainan, China and Kofu, Japan last year, Thailand plans to seal similar accords with other localities in China and India.

• ENTREPRENEURS •

By Ardian Wibisono

Credit Worthy

FinAccel's AKSHAY GARG says his Kredivo dominates Indonesia's emerging BNPL market—and he's looking to do the same elsewhere in Southeast Asia.

COURTESY OF FINACCEL

T**he buy now,** pay later (BNPL) market is booming in Southeast Asia. Digital lending, including BNPL, is expected to hit $92 billion in transactions in 2025 in the region, up from $23 billion in 2020, according to a Google, Temasek and Bain report released last year. Indian entrepreneur Akshay Garg would like to make Singapore-based FinAccel one of the region's leading firms in this emerging sector—and claims its digital lending platform Kredivo is already Indonesia's largest BNPL provider with 4 million users.

Garg, who is CEO and cofounder of FinAccel, is now busy taking Kredivo regional. Last August, Kredivo partnered with Vietnam's VietCredit to launch its service there and plans to enter Thailand and the Philippines this year. But he says Kredivo's main focus will be Indonesia, as it is the region's biggest market.

Another step that Garg, 43, is taking to grow FinAccel is to go public through a SPAC sponsored by U.S. blank-check company Victory Park Capital, slated to happen this quarter. Victory Park Capital has been a big lender to FinAccel, recently doubling its credit facility to the startup to $200 million. Victory Park Capital executives were not available for comment.

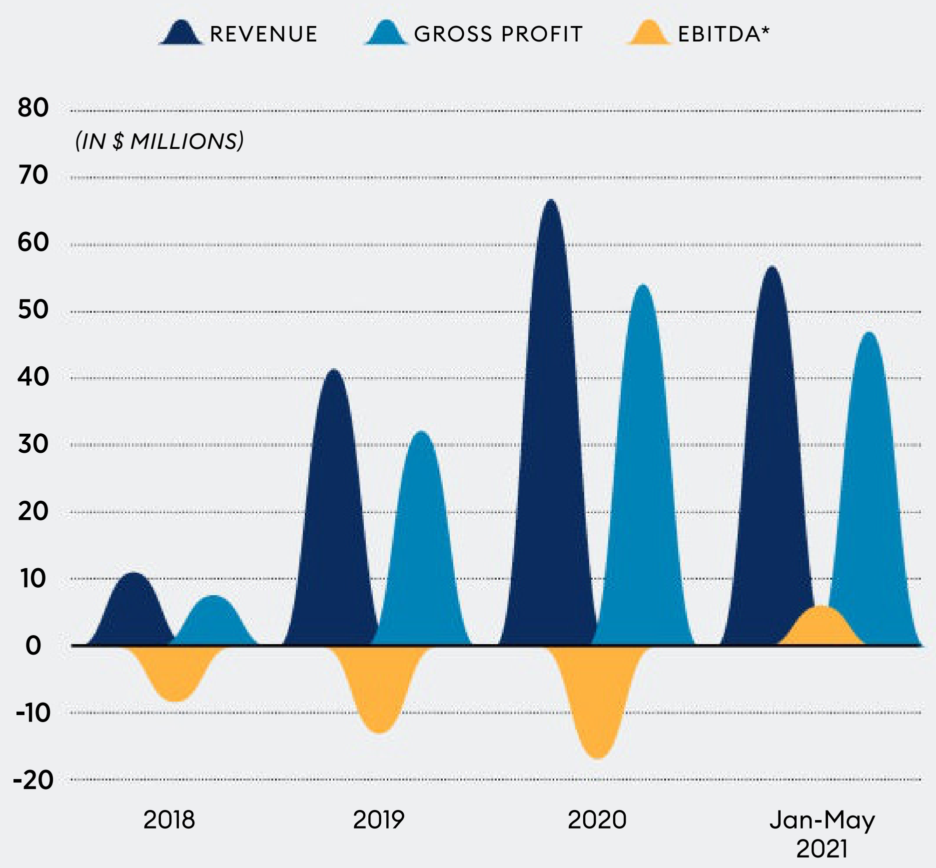
The planned transaction gives FinAccel an expected pro forma value of about $2.5 billion, closing in on the $2.9 billion value of Indonesian e-commerce giant Bukalapak, which recently went public in its home country. The deal should also deliver more than $430 million of gross proceeds to FinAccel to fuel further growth. If FinAccel lists, it would be the first fintech from Southeast Asia on a U.S. exchange, joining an elite group of publicly traded firms from the region that includes internet and gaming firm Sea, whose $90 billion market cap makes it the most successful Southeast Asian tech company on a U.S. exchange.

Aside from regional expansion, Garg is looking to broaden FinAccel's service offerings. Today it's mostly focused on financing online buying and extending credit, but soon Garg wants Kredivo to offer much more. To that end, last year, Kredivo bought a controlling 40% of a small Indonesian bank, allowing it to offer more services that can only come from a traditional bank. "Today, you think about Kredivo for e-commerce, personal loans and very soon for offline purchases. But later, we want you to think about Kredivo for motorcycle loans, car loans and credit cards as well," says Garg.

The market opportunity is huge. Kredivo and other digital lenders have expanded by tapping into opportunities created by the region's tech-savvy but underbanked or unbanked population. In 2019, Google, Temasek and Bain put those in Southeast Asia with access only to a savings account (the underbanked) and wholly unbanked at 296 million, nearly three-quarters of the region's adult population. In its 2021 report, released in November, BNPL is highlighted as "taking root" as consumer searches for BNPL skyrocketed compared with a year earlier—primarily in Indoniesa. Although Kredivo was founded in 2016, its growth in Indonesia was turbocharged by the pandemic. According to Garg, it had 500,000 accounts at the end of 2018, then 1.2 million a year later and 2.2 million at end-2020, before nearly doubling last year.

POSITIVE SIGNAL

FOR THE FIRST TIME FINACCEL SAYS IT BOOKED POSITIVE EBITDA EARLY LAST YEAR.



**Post provisions*
Source: FinAccel

> **"IN COUNTRIES SUCH AS INDONESIA, KREDIVO IS NOT COMPETING WITH CREDIT CARDS, IT IS THE CREDIT CARD."**

Kredivo is Garg's second tech startup, after India-based Komli Media, a digital advertising firm he cofounded in 2006. (Komli's Southeast Asian business was sold to Malaysian telecom Axiata for $11.3 million and its India operations to SVG Media for an undisclosed amount in 2015.) After growing up in India and studying at Whitman College in the U.S., Garg worked as a business analyst at Deloitte in Seattle and then at the International Labour Organization in Geneva before taking a crack at being an entrepreneur in 2005. Basing himself in China's Yunnan province, he published a lifestyle magazine and started a kebab restaurant. "Wanted to develop a franchise across China," Garg wrote on LinkedIn about the kebab venture. "Didn't work out. And then Komli happened. Yeah, when one door closes, another one opens."

"I've always enjoyed being an entrepreneur, building things," says Garg in a video call from Singapore. "However, Komli was the real beginning of my entrepreneurial journey, everything before that was just an experiment. Komli also brought me to Southeast Asia. Singapore has been my base since 2010." Indonesia and its booming e-commerce market drew Garg's interest.

In 2015—the year FinAccel was formed and shortly before Kredivo was launched—57% of the country's e-commerce payments were done through bank transfers, 28% were cash-on-delivery, 8% through internet banking, and 7% by credit cards, according to media reports. Garg saw a gap in the market for BNPL, with the goal to build the region's first automated retail credit platform to provide funds for purchases without using a credit card. In effect, people who might not qualify for a credit card were offered a virtual one. "In countries such as Indonesia, Kredivo is not competing with credit cards, it is the credit card," the company said in an investor presentation in August.

Two of the main pain points that Garg attacked were approval speed and accessibility. Garg says it takes only two minutes for Kredivo to approve a loan of up to 30 million rupiah ($2,100). Instead of a credit score from a rating agency, the company decides the creditworthiness of an applicant using an algorithm that looks at data such as what type of phone the applicant has. So far, Garg says, about 90% of Kredivo's Indonesia customers pay on time, roughly in line with the rate of traditional credit card repayment. "Akshay impressed us with his crystal-clear strategy for executing the business plan and building the company," says Indonesia's Chandra Tjan, cofounder of Jakarta-based Alpha JWC Ventures, an early Kredivo backer.

To limit risks, Kredivo only works with people between 18 and 60 who live in major cities and have a minimum monthly salary of 3 million rupiah. Kredivo offers zero-interest 30-day loans of up to 3 million rupiah. For installment loans of six or 12-months, the maximum lent is 30 million rupiah, and the interest rate is 2.6% a month, or a hefty 53% a year. The buyer also pays a fee of 1% or 1,000 rupiah, whichever is higher, on every transaction.

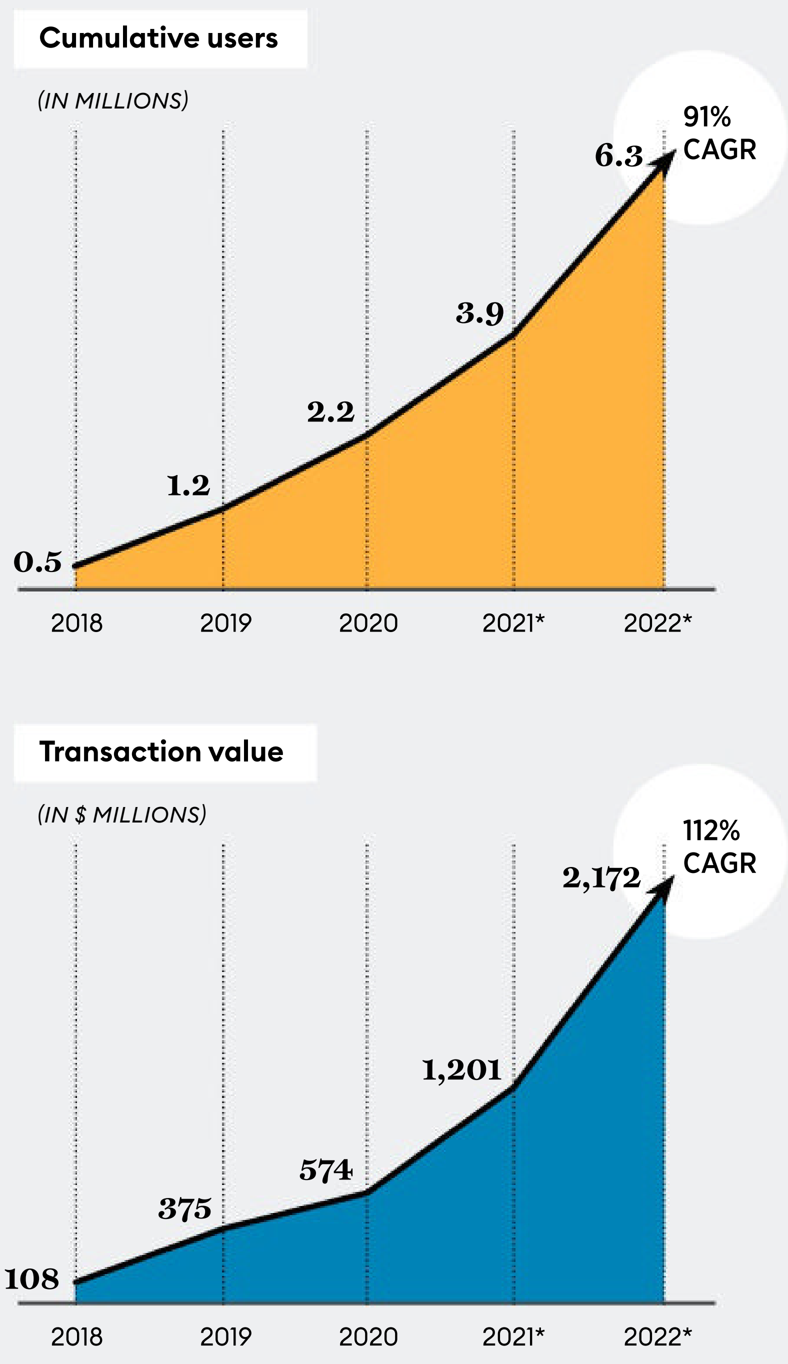
And Kredivo is also helping others channel credit to people looking for it (and able to repay). In December, it launched a co-branded card with Indonesia's Bank Sahabat Sampoerna. In this instance, rather than extend credit itself, Kredivo is an intermediary, connecting creditors with lenders, for a fee. And then there's Kredivo's own bank, local lender Bank Bisnis Internasional. In May 2021, FinAccel acquired 24% of the bank for 551 billion rupiah, and added another 16% in October. It also has an option to possess 75% if regulators agree.

The move allows Kredivo to offer more services that FinAccel—licensed in Indonesia as a finance company—is now blocked from doing. FinAccel is following the lead of Indonesian tech firms, such as GoTo, which bought a stake in another small local bank, Bank Jago, in 2020.

FinAccel will need plenty of wherewithal to battle in the fiercely competitive BNPL market. BNPL services are now offered by regional giants GoTo and Sea, and pure-play regional BNPL outfits such as Akulaku and Atome. (In mid-February, Jakarta-based Akulaku added $100 million to its war chest from Thailand's Siam Commercial Bank to expand in Southeast Asia.) In Australia alone there are over a dozen BNPL companies. Yet Kredivo has built a base in Indonesia by pioneering online lending and its quick turnaround time on applications. The BNPL industry was also helped by a decline in credit card usage there caused by

AIMING HIGH

KREDIVO SEES CONTINUED RAPID GROWTH AHEAD IN USERS AND TRANSACTIONS.



*Forecast
Source: FinAccel

Garg at FinAccel's office in Singapore

COURTESY OF FINACCEL

the pandemic. The number of cards in the market dropped from nearly 17.5 million at the end of 2019 to just over 16.5 million at end-2021, according to the Indonesia Credit Card Association. Transaction value decreased 43% from 332 trillion rupiah in 2019 to 189 trillion rupiah in 2021.

Garg says FinAccel became profitable in 2021's first quarter, though he doesn't provide any numbers. In the first five months of 2021, Ebitda post-provisions came to $8 million, a reversal of the minus $17 million for the same period a year earlier, according to FinAccel, which also said in May it had a $180 million annualized revenue run rate.

The BNPL industry in Southeast Asia, still young and growing, should heed what's happening in Australia. There the BNPL industry is more mature and most of the stocks of listed players have suffered big drops as demand for BNPL cooled and bad debts increased, as well as getting hit with the meltdown in tech stock prices worldwide.

"Southeast Asia is a new market and the dynamics are different, as are the applications of BNPL, but the same risks apply on competition, on pricing and future regulation," says Angus Mackintosh, Jakarta-based analyst and founder of CrossASEAN Research. BNPL boosters, however, can point to the $29 billion acquisition of Australian BNPL company Afterpay by U.S. fintech giant Block (formerly Square), a deal which closed in January, as a positive sign for the future of BNPL.

IF FINACCEL LISTS, IT WOULD BE THE FIRST FINTECH FROM SOUTHEAST ASIA ON A U.S. EXCHANGE.

Garg has bigger goals with FinAccel. He hopes the company can do good while doing well. "Financial services are, in some ways, the foundation of a better and productive life," Garg says. "Over the next few years, the big picture is to create admired financial services that impact and make the lives of tens of millions better."

BEXIMCO COMMUNICATIONS DELIVERS A NEW WORLD OF TV ENTERTAINMENT TO BANGLADESH

Beximco's direct to home TV service empowers millions of Bangladeshi households with its innovative digital media offerings.

Beximco Communications is breaking new ground in Bangladesh's entertainment and media sector by leveraging its position as an innovation leader and a pioneer in digital content viewing.

In May 2019, the company launched AKASH—the country's first-ever direct to home (DTH) television service—with the vision to build a world class digital entertainment ecosystem for Bangladesh. That's a breakthrough for a country where only 63% of households, or about 23.4 million, have TVs, more than 95% of which are analogue.

"This service has changed the face of the television landscape by allowing every person in a primarily analogue landscape to have access to premium quality digital entertainment," says Shayan F. Rahman, Chairman of Beximco Communications. "This access to more programming and new content choices will provide support in the continued development and transformation of the nation in the fields of education, health, culture, sports, employment and many other areas."

With superior picture and sound qualities, AKASH DTH offers a wide range of popular Bangladeshi and foreign TV channels including the world's biggest sporting events. Beximco will continue to add quality local and foreign content going forward, as well as introduce services such as video on demand and over-the-top media services.

AKASH allows its subscribers the convenience of managing their own accounts for content they wish to subscribe to at their fingertips, while giving them real-time access to customer support 24 x 7. The service is a fully prepaid platform, which means customers don't have to deal with post-paid billing and payment hassles which is not possible with traditional pay TV operators. This also ensures that the right amount of taxes are paid on all connections and that no tax revenue is lost to the government.

Access To Remote Areas

Being the first operator of DTH service in Bangladesh, Beximco has made significant capital outlay to establish a country wide distribution network, while at the same time marketing the service and building strong brand recognition and product/service loyalty for AKASH.

As consumers increasingly shift towards

> **"There is vast scope for expansion and growth especially in the rural and cable dark areas. With the government's commitment to Digital Bangladesh and subsequently making the digitalization of the television network compulsory, demand will only accelerate and AKASH DTH is perfectly positioned to be the digital broadcasting platform of choice."**
>
> **— SHAYAN F. RAHMAN, CHAIRMAN OF BEXIMCO COMMUNICATIONS**

high-definition and 4K televisions, Bangladeshis won't fully experience the potential of these advanced products unless they subscribe to AKASH. The DTH service can bridge this gap by offering a technologically superior digital connection that can deliver the picture and sound quality that consumers desire. AKASH is the only player in Bangladesh PayTV industry which offers true HD picture & Dolby audio.

With its satellite-based coverage, AKASH can reach all parts of the country, including remote geographies that pose logistical challenges for conventional cable TV operators. The company has also been working to create a skilled service and distribution infrastructure to service deep rural areas with no access to cable TV services.

To enhance the customer experience, AKASH offers customised packages that cater to all customer segments. The service comes with features such as value-for-money offerings, personal video recording, parental controls and program reminders.

Robust Digital TV Demand

"There is vast scope for expansion and growth especially in the rural and cable dark areas," says Rahman. "With the government's commitment to Digital Bangladesh and subsequently making the digitalization of the television network compulsory, demand will only accelerate and AKASH DTH is perfectly positioned to be the digital broadcasting platform of choice."

The future looks bright for AKASH DTH with the PayTV segment in Bangladesh projected to be a multi-billion-dollar industry in the next five years. The number of TVs per household is expected to grow substantially due to differing content preferences across gender and age groups, resulting in a corresponding rise in the number of connections per household.

TV viewing has surged and has effectively become an essential service during the pandemic. Against this backdrop, Beximco has continued to install and establish connections for new subscribers, under the strictest guidelines and safety management measures. It has also invested in a contactless transactions platform that provides customers self-help tools and a self-care portal integrated with social media messaging services for related matters.

BEXIMCO
COMMUNICATIONS

To find out more
www.beximco.com

NEW KID ON THE BLOCK

Fresh from a pivotal deal that transformed ESR into Asia's largest property manager, chairman **JEFFREY PERLMAN** is bulking up on the physical assets that power Asia's digital boom such as data centers, logistics hubs and warehouses.

BY **JONATHAN BURGOS**

PHOTOGRAPHS BY **DARREN GABRIEL LEOW** FOR FORBES ASIA

It's only taken 38-year-old Jeffrey Perlman of Warburg Pincus six years to become one of Asia's premier real estate dealmakers.

Since basing himself in Singapore in 2016, Perlman has overseen breakneck growth at Hong Kong-listed ESR Cayman. In that time, ESR's assets under management have swelled nearly 1,800% to $140 billion, making it the world's fifth-largest real estate manager by AUM and the biggest based in Asia.

"There hasn't been anyone who's laid out a playbook for this. What we've created obviously engendered a lot of interest," says Perlman from his Warburg Pincus office overlooking Singapore's iconic Marina Bay Sands integrated resort. Perlman charts ESR's strategic direction as chairman—a position he has held since 2019, when ESR listed its shares in Hong Kong—while concurrently overseeing the private equity firm's Asia-Pacific real estate business as well as its Southeast Asia operations as managing director.

It was ESR's takeover of Singapore's real estate giant ARA Asset Management that catapulted the company into the ranks of world's biggest property managers. In a deal started last August and closed in January, Singapore tycoon John Lim sold his ARA, with $95 billion in AUM, for $5.2 billion to ESR. In one fell swoop, ESR quadrupled its assets from $36.4 billion held at the time.

The transaction got done because it made sense for both sides. By combining with ESR, Lim and his longtime keystone investor, Singapore billionaire Chew Gek Khim, leveraged their stakes in the privately held ARA into a rough-

ESR is building its most advanced logistics facility yet (*artist's impression above*) near Tokyo's Haneda Airport. It will be the first in the world to use drones to deliver time-sensitive cargo when completed in March 2023. With nearly 390,000 square meters of gross floor area, ESR Amagasaki Distribution Center (*below*) in Osaka is the largest warehouse in the Asia-Pacific.

COURTESY OF ESR

ly 5% share each in a much larger publicly traded firm. ESR got scale in an industry where being bigger is increasingly better. "By merging the two [companies we] could create the Blackstone of Asia," said Chew last year of the deal. The comparison is apt. ESR is now the world's third-largest publicly held property manager behind only Blackstone and Brookfield. And Perlman aims to narrow the gap with those two North American giants. "We're very much on their heels," Perlman says.

ESR under Perlman is building a strong base of the physical infrastructure that supports Asia's booming e-commerce and digital industries—in the form of data centers, logistic hubs and warehouses. It has built and acquired logistics facilities across the region to meet demand from e-commerce giants Amazon, Alibaba, Coupang and JD.com, among others, whose business has surged since pandemic-induced lockdowns in early 2020. This has helped ESR flourish at a time when many real estate companies are reeling from Covid-19 and as indebted Chinese residential developers face a cash crunch. While many of Asia's property tycoons have seen the stocks of their companies hurt by the pandemic, ESR's share price has risen 53% in the two and a half years since its IPO (and during the darkest days of the outbreak).

The strategy of developing real estate for new economy businesses—rather than building gleaming skyscrapers, swanky hotels or iconic buildings—is credited to Perlman, who was instrumental in cofounding e-Shang. The Shanghai-based company merged with Singapore's Redwood Group in 2016 to form ESR, whose current market cap of $15 billion dwarfs some of Asia's prominent property developers. "We wanted to be the go-to e-commerce developer and landlord, and that's how we started," Perlman recalls. "The vision was to start delivering logistics facilities and then build a capable fund management platform over time."

"THERE HASN'T BEEN ANYONE WHO'S LAID OUT A PLAYBOOK FOR THIS."

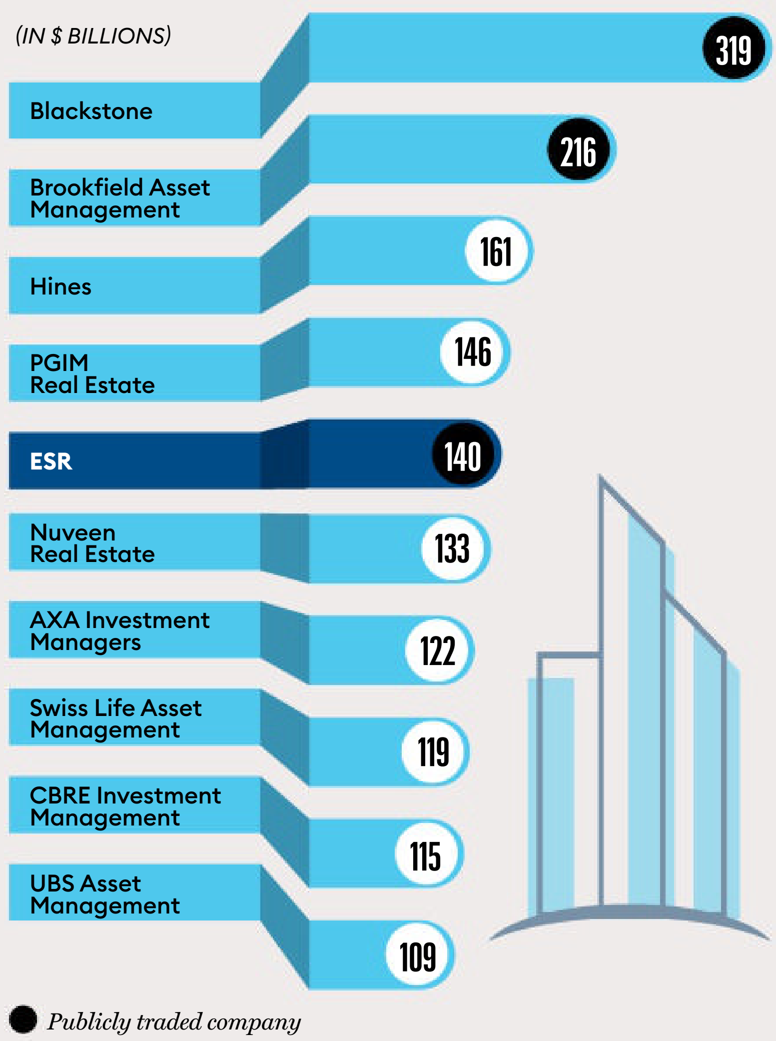
ESR and ARA's combined assets include $95 billion in private investment vehicles and 14 REITs valued at $45 billion—making it the largest REIT sponsor in Asia-Pacific. The enlarged entity owns and manages over 35 million square meters of properties across 28 countries, of which over 80% (measured by floor space) are new economy assets such as logistics warehouses and data centers.

Yet ESR might not have existed if Warburg Pincus hadn't sent Perlman to Asia in late 2008 to help build its presence in the region after the collapse of the U.S. housing market sparked the global financial crisis. Perlman joined the buyout firm in New York in 2006, a year after starting his career on Wall Street as a property investment banking analyst with Credit Suisse First Boston, armed with a bachelor's degree in business administration from the University of Michigan. Then an associate with Warburg Pincus' global real estate investing team, he shunted to and from China, hunting for deals with the buyout firm's mainland counterpart, now led by Ellen Ng.

"I was going back and forth to Beijing and Shanghai, essentially living out of a suitcase," Perlman recalls. As the business in China grew, Perlman spent more time in the country (clocking 250 days in 2010), and it made sense to consider moving to Asia. So, in 2011, he proposed to his then girlfriend, Elizabeth, with the pitch: "You'd see me a lot more if we move to Hong Kong." By the time Perlman and his fiancé relocated there in late 2011, he had lined up a few deals in China, including the partnership between Warburg Pincus and logistics industry veterans Jeffrey Shen and Sun Dongping to form warehouse developer e-Shang. "Back then, warehousing was not a big market and there was a very limited supply of modern, institutional grade logistics facilities," Shen, ESR cofounder and co-CEO, recalls. "We definitely saw the potential, especially with the rise of e-commerce."

GLOBAL AMBITION

A six-year acquisition spree and organic expansion have made ESR the world's fifth-largest real estate asset manager by AUM.



Source: IRE Global Investment Managers 2021 report, ESR

Jeffrey Perlman (*left*) and Jeffrey Shen

DARREN GABRIEL LEOW FOR FORBES ASIA

Perlman's trailblazing career was inspired by his late parents, both lawyers. Father Michael Perlman—who worked as a real estate attorney in Michigan—encouraged Jeffrey to study business, just like his older sister Dana, who works as chief strategy officer and treasurer at New York-based fashion house PVH Corp., owner of Tommy Hilfiger and Calvin Klein brands.

While growing ESR's regional footprint, Perlman was also instrumental in Warburg Pincus' expansion into Southeast Asia. Anticipating fresh opportunities in the region, Perlman in 2015 proposed setting up a Singapore office to the firm's CEO Chip Kaye—who started Warburg Pincus' Asia business in 1994—and president Tim Geithner, a former U.S. Treasury secretary.

Since 2013, Warburg Pincus has poured almost $3 billion across 15 companies in Southeast Asia. Among the most notable was its partnership with Vietnamese billionaire Pham Nhat Vuong's Vingroup to form shopping mall developer Vincom Retail. It raised $740 million when it went public in 2017—Vietnam's then biggest-ever IPO—before exiting in 2019. The buyout firm also strengthened its regional team, with managing director Saurabh Agarwal relocating to Singapore from New York in 2017.

Perlman himself moved to Singapore in 2016, using the city-state—where his two children were born—as a base to oversee Warburg Pincus' investments. He considers Singapore the focal point of ESR's enlarged business given ARA's vast presence in the financial hub, which includes prized assets such as Suntec City, a sprawling development comprising a shopping mall, offices and convention center. "Perlman is ubiquitous," Stuart Gibson, ESR cofounder and co-CEO, says in a separate video interview in January. "He is here and everywhere."

Besides forming ESR in 2016, Warburg Pincus that year also teamed up with Lim to take ARA private and delist the company from the Singapore bourse the following year in a $1.3 billion deal. Asked whether he was eyeing a potential merger of ESR and ARA when Warburg Pincus invested in the latter, Perlman says that while such a deal wasn't on his mind then, he did invite Shen down to Singapore in 2017 to meet Lim. "I don't think at that point there was a 'we're going to all join forces' [mentality], but when you're in the people business, and you can see how people get along, and you see the shared vision and the passion that they have, then things like this are possible," Perlman says in a video call after the January completion of the ARA acquisition. Lim—who cofounded ARA with CK Asset's Justin Chiu two decades ago—declined to comment for this article.

However, Perlman sat on the sidelines when ESR proposed to acquire ARA in August 2021, recusing himself from any deal discussions given his concurrent roles at ESR and Warburg Pincus, ARA's biggest shareholder, according to Gibson, who together with Shen negotiated the deal last year. "He wants to be involved in deals, but he wasn't in the room for this deal," says Gibson.

On a pro forma basis, ESR and ARA's combined net profit doubled to $347 million in the six months ended June 2021 from a year earlier, bolstered by strong leasing demand for its warehouse space from e-commerce companies and a booming fund management business. Earnings are expected to increase more than 15% on a compounded annual growth rate basis through 2025, underpinned by new economy assets and fees from asset management and property development, Morgan Stanley analysts Wilson Ng and Derek Chang wrote in a research note published in January.

"The largest secular trends are underpinning the growth of our business," says Perlman, referring to the e-commerce boom, digital transformation and financialization of the real estate markets across Asia-Pacific. "The rapid growth of e-commerce has only accelerated during the pandemic."

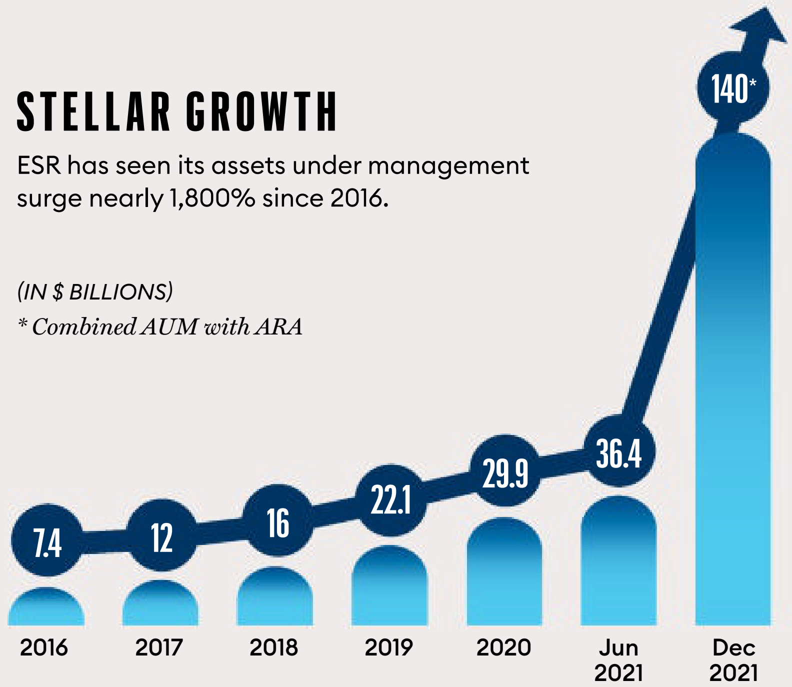
To solidify its position, ESR wants to go even deeper into new economy investments, and is pressing ahead with the construction of cloud kitchens, cold storage facilities, data centers and warehouses across Asia-Pacific. It has raised more than $10 billion in the past two years to fund these projects and is kicking off 2022 with the launch of two complementary funds that will raise as much as $2.5 billion to bankroll the group's expansion into the booming data centers industry. Demand for facilities to house servers powering cloud computing and other digital platforms is set to double in Asia-Pacific in the next three to five years, according to property consultant Knight Frank.

ESR completed Asia-Pacific's biggest warehouse at the height of the pandemic in June 2020. With a gross floor area of nearly 390,000 square meters, the six-story ESR Amagasaki Distribution Center in Osaka boasts amenities such as a childcare center, a private lounge and retail shops as well as ecofriendly features that include an onsite solar-powered electricity generator and charging pods for electric delivery trucks. The company is building its tallest and most advanced facility yet near Tokyo's Haneda Airport. The nine-story ESR Higashi Ogishima Distribution Center will be the world's first logistics facility that can deliver time-sensitive cargo using drones once the roughly 366,000-square-meter property is completed by March 2023.

In China, where it has more than $13 billion in AUM, ESR this month bought a portfolio of 11 warehouses with a gross floor area of 550,000 square meters in the largest such transaction in the greater Shanghai area, and is building 2.5 million square meters of new logistics and data center space across the country. Perlman sees more growth in China, undeterred by the potential meltdown of the mainland's housing market after China Evergrande Group—the world's most-indebted developer with over $300 billion in liabilities—defaulted on bond payments last year. "Residential is

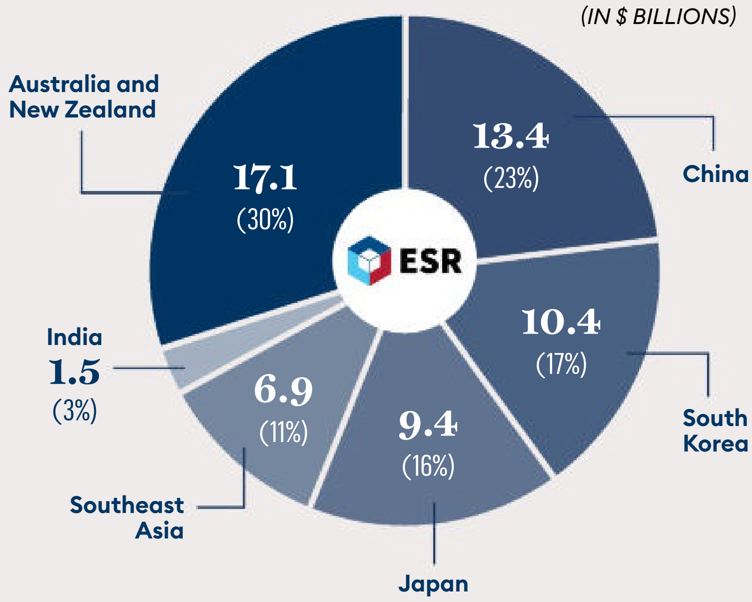
STELLAR GROWTH

ESR has seen its assets under management surge nearly 1,800% since 2016.



E-CONOMY PLAYBOOK

ESR's portfolio includes $59 billion of warehouses and data center assets, making it the largest new economy property platform in Asia-Pacific.



Source: ESR

COURTESY OF ESR

"PERLMAN IS UBIQUITOUS. HE IS HERE AND EVERYWHERE."

—STUART GIBSON, ESR cofounder and co-CEO where all the tension is, the headlines are always on that," he says. "New economy infrastructure has big government support behind it. They know they need more warehouses. They know they need more data centers."

Higher interest rates could slow ESR's blistering pace of acquisitions as the increased cost of capital is likely to reduce the pool of accretive deals in the market, says Vijay Natarajan, an analyst at RHB Singapore. However, "despite potential interest rate hikes, ESR is in a better position to navigate this market," he adds. "[An] asset light platform and strong recurring income position it well to cushion the initial impact of higher interest rates." The acquisition of ARA also strengthened its balance sheet. Net gearing fell to 34% following the deal's completion from 62% in June 2021, giving the combined entity some headroom to issue more debt to fund future acquisitions, Credit Suisse said in a research note published in January.

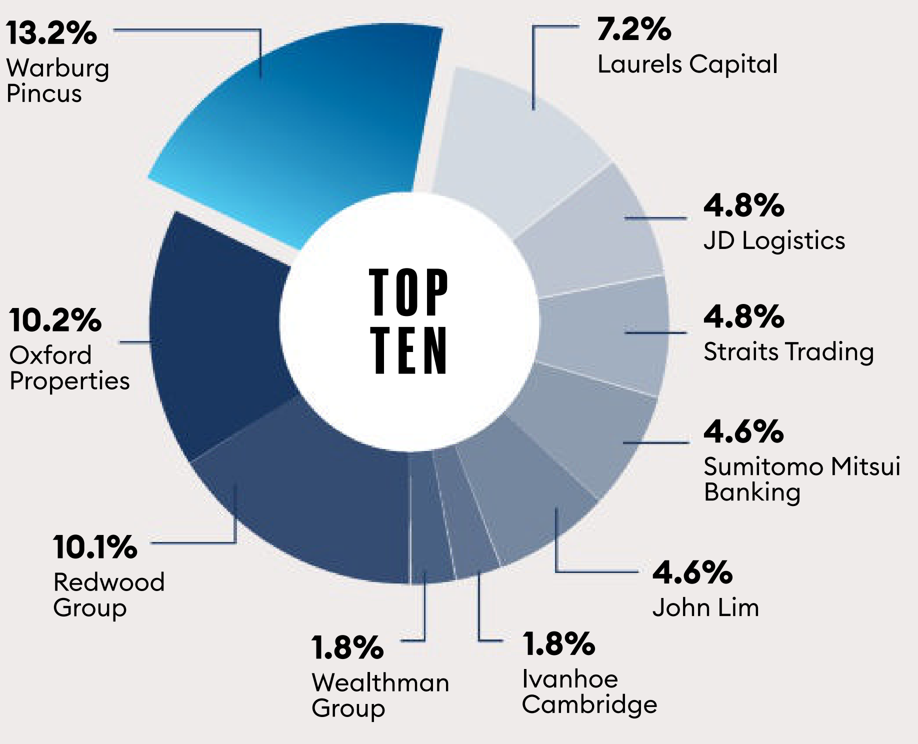
Adding to organic growth, ESR sealed more than $10 billion of deals in 2021, its busiest year so far. Last April, it partnered with Singapore sovereign wealth fund GIC to buy a portfolio of warehouses across Australia for A$3.8 billion ($2.8 billion) from Blackstone in the country's largest logistics property transaction, while investing in a $2 billion data center project in Japan the same month. In October, two months after announcing the ARA acquisition, ESR moved to merge their Singapore-listed entities ARA Logos Logistics Trust and ESR REIT.

"JEFF IS A TERRIFIC DEALMAKER WHO USES HIS GLOBAL EXPERIENCE TO GREAT SUCCESS IN ASIA."

—STUART CROW, CEO for capital markets in Asia-Pacific at JLL

SLICES OF THE PIE

Led by Warburg Pincus, ESR's top ten shareholders are a diverse group.



Source: ESR

Perlman says a scaled-up ESR, whose portfolio includes $59 billion of warehousing and data center assets, will be able to attract investors seeking to deploy capital to fewer managers. Global investors poured some $48 billion into logistics properties across Asia-Pacific in 2021, exceeding the previous high of $32 billion set the year before, according to a report published by property consultant JLL in February. JLL estimates the combined entity could potentially tap a market worth about $2.5 trillion across Asia-Pacific.

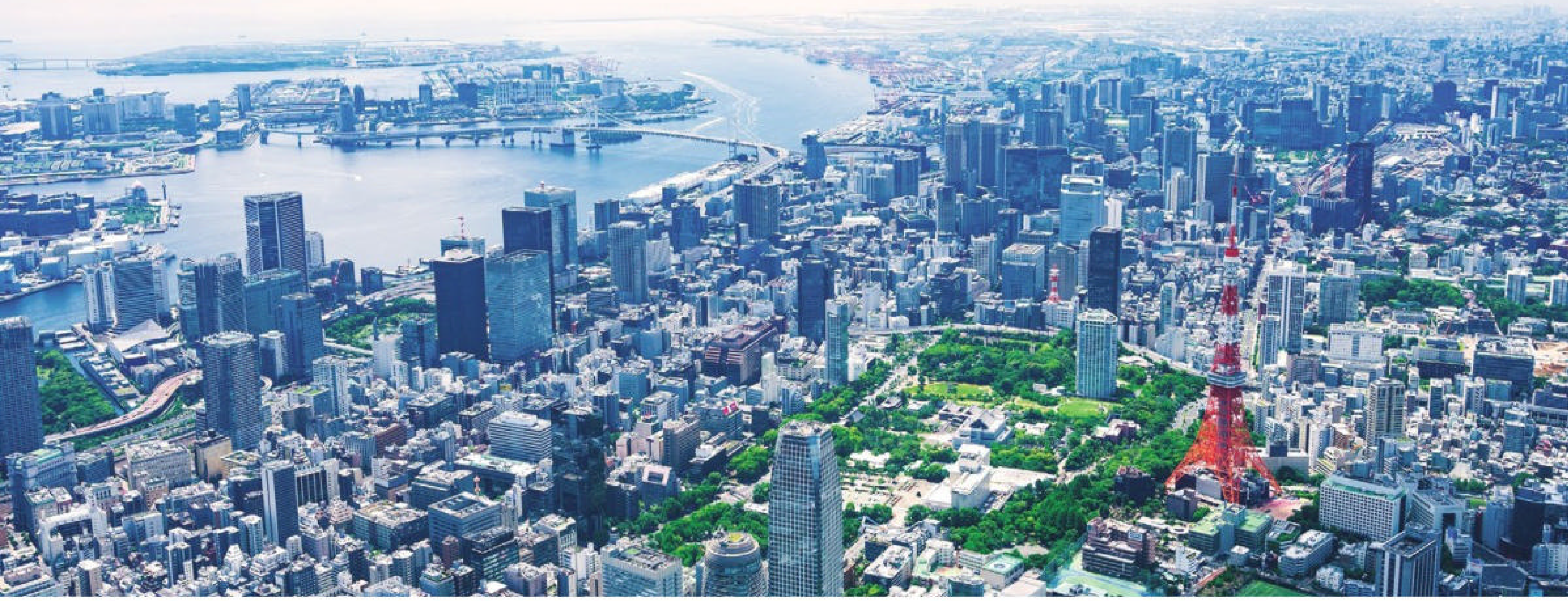
"Jeff is a terrific dealmaker who uses his global experience to great success in Asia," Stuart Crow, CEO for capital markets in Asia-Pacific at JLL, says by email. An early mover in one of the fastest-growing sectors, Perlman "understands the granular details of assets and markets, but with an eye on how they fit into the financial markets of Asia," he adds.

Although Perlman wants ESR to focus on new economy projects, he remains opportunistic in picking up more traditional assets for ESR's portfolio. ESR is strategically positioned to absorb some office buildings and commercial properties into its REITs or private investment funds that large institutional owners such as pension funds or insurance firms may wish to sell to reallocate capital elsewhere, he says.

Such reallocation, along with robust demand for warehouses and the potential to create newer and bigger REITs across Asia-Pacific, presents huge opportunities for ESR to sustain its growth in the coming years. It should also benefit from some larger secular trends. JLL projects the market cap of all REITs in Asia-Pacific will rise to $1.3 trillion by 2030, from about $400 billion currently, emulating the growth of the U.S. REIT market in the past two decades. Perlman sees ESR having the scale and expertise to profit from multiple trends in Asia-Pacific's property markets, especially those driven by the new economy. "Digital transformation is ongoing in our daily lives," says Perlman.

JAPAN'S ECONOMY TO GAIN TRACTION IN 2022

The Asian economic powerhouse is poised for a resurgence in the coming year led by its most dynamic companies.



Like most countries, Japan struggled to find its economic footing in 2021, as it continued to deal with pandemic-related restrictions and prevailing supply chain disruptions around the world.

Despite the challenges brought on by the Covid-19 pandemic, the world's third-biggest economy is poised to recover, supported by the 56 trillion yen (US$493 billion) economic stimulus unveiled by newly-elected Japanese Prime Minister Fumio Kishida in November. The package will offer cash handouts to families with children under 18, support small businesses and implement measures to offset rising fuel prices. The country's largest spending reflects the government's resolve to boost growth and redistribute wealth to households.

"Growth is on course to regain momentum, supported by macroeconomic policies and progress in vaccination," the Organisation of Economic Cooperation and Development said in a report in December. "Significant progress in vaccination and falling rates of infection are now supporting the resumption of stronger consumption growth and lifting investment, as supply chain disruptions are resolved. A new economic policy package will boost activity."

While the Japanese economy is expected to accelerate its expansion in fiscal 2022 to 3.4%, corporate leaders must remain vigilant amid the lingering impact of Covid-19. The nation's corporate CEOs will have to remain steadfast and be prepared for the unexpected, Yuzaburo Mogi, Chairman and Honorary CEO of Kikkoman Corporation, says. CEOs need to be forward-looking and be able to anticipate what lies ahead and act decisively, he adds.

Guided by this philosophy, Mogi has spearheaded Kikkoman's overseas expansion since the 1970s. Today, the company's main soy sauce product is enjoyed in over 100 countries, with around 75% of the group's profits coming from its international business.

As supply chains normalize, Japanese firms are also looking to tap the growing demand for electronics devices and components. One company that's emerging stronger from the pandemic-induced slump is THK Co., Ltd.—a supplier of industrial machinery, robotics and automation solutions.

THK is benefitting from robust electronics demand driven by advances in automation and robotics, and a boom in the automotive industry as the switch towards electric vehicles gains pace. The firm aims to leverage digital technologies, such as artificial intelligence, Internet of Things and robotics, to boost the efficiency of its manufacturing processes over the next three years.

The strong rebound in the electronics and automotive sectors also bodes well for Alps Alpine Co., a Japanese manufacturer of sensors, touchpads and switches. With a mission to "perfect the art of electronics," the group's global network of 100 companies supply components and devices to the automotive, infotainment, and related logistics services industries.

Japan's economic resurgence in the coming years will be underpinned by its inherent strengths and the resilience and innovation of its dynamic companies. The long-term outlook for the Land of the Rising Sun is looking brighter than ever.

BACK TO THE FUTURE OF BOLD, HANDS-ON MANAGEMENT

One of Japan's most senior business leaders talks about what makes a good corporate executive amid an environment of constant change.

Since becoming President of Kikkoman Corporation back in 1995, Yuzaburo Mogi has been the public face of the company. He took on the dual role of Chairman and CEO in 2004. Having helmed the company's day-to-day operations for more than 15 years, Mogi was appointed Honorary CEO in 2011 and retained his post as Chairman of the Board. Regardless of his title, Mogi will always be known as the leader who transformed Kikkoman into a global household name.

Mogi is not only one of the most senior business leaders in Japan, he is also one of the most respected. A key proponent of internationalization, he persuaded his company in the early 1970s to do something radical: build a factory in the U.S. Mogi then spearheaded the development of a network of production plants and sales subsidiaries around the world. Today, Kikkoman's main product—soy sauce or shoyu in Japanese—is enjoyed in over 100 countries. "Roughly 75% of our business profit comes from our overseas business," Mogi proudly says.

"Data don't make decisions; people do."

After expanding rapidly in North America and Europe, Kikkoman plans to enter new markets. "We see new horizons beckoning," Mogi says. "We are looking to expand our sales in Asia, and then develop the South American and African markets in the years to come."

With the world facing unprecedented challenges due to the Covid-19 pandemic, Mogi—who is seen as one of the boldest and most internationally savvy executives in Japan—believes corporate leaders need to be steadfast and be prepared for the unexpected. "The most important quality for a chief executive is to be forward-looking," Mogi says. "Not just thinking about the future but being able to see what lies ahead and navigate accordingly. There are always so many possibilities. You must decide which path is best for your company."

Mogi says CEOs also need to be decisive leaders. "An executive needs the ability to decide. That means, examining information, evaluating it, and making clear judgments—in other words, decision-making ability. A CEO needs to be able to both guide and persuade employees and to create a consensus in the company in order to get things done. Not by issuing orders, but by leading people in a certain direction."

Given the rapidly changing business environment, Mogi says the job of CEOs will be extremely difficult in the next two decades. "The next 20 years will be much more challenging than the past 20 or 30 ever were. Think of what the pandemic taught us. There are all sorts of risks we didn't think of before and can't even see now."

While technological advancements will help CEOs navigate the future, Mogi says corporate leaders need to harness these technologies to make the best decisions. "There are things we couldn't adequately measure before and data we didn't have before that are now available. Because we have much more data to work with, we have a slightly better view of the future than we did in the past. And yet it is still difficult to make good decisions."

Mogi believes that one important thing has not changed and won't change anytime soon: "In the end, it's still the CEO's job to decide what the future will look like for their organization. Digital tools, AI systems, and big data can help, but at the end of the day someone has to make a decision. Data don't make decisions; people do."

Yuzaburo Mogi
Honorary CEO and Chairman of the Board

Yuzaburo Mogi is a descendant of one of the founding families of Kikkoman, which is among the oldest continually running businesses in Japan. Mogi holds an MBA from Columbia University.

THK GEARS UP FOR POST-PANDEMIC RECOVERY

THK stays ahead of competitors as global demand recovers post the pandemic.

THK Co., Ltd.—which pioneered the development 50 years ago of the world's first Linear Motion (LM) Guide that has become an integral part of today's industrial machinery—is looking to benefit from electronics-related demand, advances in automation and robotics, along with the boom in the automotive industry amid the growing switch to electric vehicles.

"Our performance is extremely strong, driven by rising semiconductor demand, and following a tough time under Covid-19," says Akihiro Teramachi, CEO and President of Tokyo-based THK. "We are forecasting significant growth in both revenue and profits."

Digital Transformation

To boost productivity and efficiency, Teramachi aims to tap digital technologies such as artificial intelligence, Internet of Things and robotics in THK's manufacturing processes over the next three years.

"Our focus on market share is one of our strengths, and we will continue with this approach."

"Robots work 24 hours per day, 365 days per year, and you don't need to take the impact of Covid-19 into your calculations," Teramachi says.

Following the release of Omni THK, a communication platform designed to support customer purchasing processes, the company launched OMNIedge—an IoT predictive service—in January 2020 as the Covid-19 pandemic started to wreak havoc in the global economy. The platform allows sensors installed on THK components embedded in the clients' performance monitoring equipment to collect and analyze data, enabling it to predict faults and minimize malfunctions automatically, without human intervention.

Big Data

Many THK products are already in operation across a variety of industries. By attaching sensors to such products, the data generated is becoming increasingly dense, facilitating more accurate analysis.

"This is big data," Teramachi says. "We have established a diagnostic threshold on the safety side enabling us to send out early warnings. The more data we collect, the more analysis we can execute, leading to shorter lead times."

The recovery in the economy is boosting THK's sales for the new platform, with the automotive industry emerging as an important client for OMNIedge.

"We have picked up business from a large number of automotive-related makers," Teramachi says. "In addition, operations at many of these companies are becoming increasingly global, and we are now being asked to install our products in factories in each country where they operate."

Golden Anniversary

Having celebrated its 50th anniversary in 2021, Teramachi believes the company has survived the last five decades because its ability to innovate and produce industry-leading products helped it maintain its top market share.

Maintaining a dominant market share is important for Teramachi because it helps THK stay abreast of the clients' wants and needs. The information the company gathers from clients enables it to develop and propose follow-on products.

"Of course, sales and profits are important for us, but our primary objective is market share," he says. "Our focus on market share is one of our strengths, and we will continue with this approach. Over the next 50 years, we will transform our corporate structure to become a manufacturing and innovative services company, based on OMNIedge and Omni THK, and will pursue further growth."

Akihiro Teramachi
Chief Executive Officer and President, THK

Akihiro Teramachi graduated from Keio University in 1971 and joined THK Co., Ltd. in 1975. He became a Director in 1982 and Vice President in 1994, before becoming CEO in 1997.

www.thk.com

By Giacomo Tognini

Photograph by Wolfgang Wilde for Forbes

Nose for Business

Swabs for Covid testing made Copan CEO STEFANIA TRIVA a billionaire. Despite countless buyout offers, though, she's snubbing the dealmakers and keeping the company firmly in the family.

On a foggy early January day in the northern Italian city of Brescia, which was hit hard by the first wave of Covid-19 in 2020, Stefania Triva, 57, sets out two swabs side by side on her desk. One is a regular cotton Q-tip, the other a special "flocked" swab, studded with tiny synthetic fibers that resemble split ends.

That special swab—made by her family's 43-year-old company, Copan—is the key element in hundreds of millions of Covid-19 PCR tests currently being plunged into noses around the world. Sitting in front of a large red-and-yellow abstract painting and a corkboard filled with photos of her three children, Triva delves into the subtle differences that make her flocked swabs the gold standard.

"In a cotton swab, the fibers are twisted around the stick, creating a cage that traps the sample," she says, pointing to the thickly wound Q-tip. "But it only releases 20% of that sample.

"I can't see myself anywhere else. It's in my DNA," says Copan CEO Stefania Triva, who got her start as a teenager packing boxes for her father's company in the 1980s.

In a flocked swab, thanks to the mechanics of how the fibers are attached to the stick, you have the opposite: 80% is released."

Those swabs—invented by Copan in 2003 and the subject of ongoing litigation with its leading rival, Maine-based Puritan Medical Products—have helped drive the company's enormous growth; it manufactured 415 million of them in 2020, more than double the 2019 amount.

After ramping up production, Copan now has the capacity to produce 1 billion a year. Net income nearly quintupled in 2020, to $79 million, on revenue of $372 million. It blew past that figure in 2021, with sales growing to $445 million. A full 84% of Copan's sales come from flocked swabs, which have been used in at least a billion molecular tests conducted in doctor's offices and clinics around the world since the beginning of the pandemic. (That figure doesn't include swabs for rapid tests or at-home kits, a tiny fraction of Copan's business.)

That success has elevated Triva, who holds a 48% stake in Copan, into the billionaire ranks, worth an estimated $1.2 billion. Five other family members own the rest of the firm, which *Forbes* values at another $1.3 billion.

Copan's runaway success has attracted the attention of several investment funds—Triva won't name them—but the daughter of the company's founder has no intention of selling. "We receive offers almost every day," she admits. Confirms her nephew and Copan's 32-year-old heir apparent, Giorgio Triva: "We're at a size similar to other firms being sought out by these funds."

But despite the SPAC boom and the proliferation of IPOs both at home and abroad—including the New York Stock Exchange listing in July of Stevanato Group, another Italian family-owned firm that received a Covid boost thanks to its vials for vaccines—she doesn't plan to tap the public markets.

"When you're a public company . . . it constrains your strategy and decision making," she says. "We're financially solid and independent, and this allows us to grow without seeking external funding."

The growth of the past two years means Copan can continue expanding while keeping ownership firmly within the family. "We love being free, eclectic and fast, knowing that we sometimes need to take calculated risks," Triva says.

That means investing in a future beyond the pandemic. In addition to medical tests, the firm also makes specialized swabs used in collecting forensic DNA from crime scenes. Clients run the gamut from Scotland Yard to the French Gendarmerie, which used Copan-made swabs to help identify the perpetrators of the 2015 Paris terrorist attacks. A microswab Copan and the Gendarmerie developed together enables authorities to analyze DNA from any bodily fluid—or even just fingerprints—in under two hours.

Beyond swabs, Copan already has a high-tech, and likely more lucrative, product to offer: a whole suite of machines and software that automates much of lab processing, from routine urine tests to complex bacterial infections. Lab automation, with $5 billion a year in revenue, is potentially a much bigger market than swabs.

"We've made some innovations in automation that have revolutionized microbiology," Triva says, glancing over the vast warehouses and factories outside the window of her office.

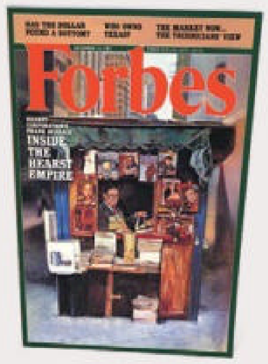
Copan was founded in the northern Italian city of Mantua in 1979 by Triva's father, Giorgio Triva. It initially distributed only lab products others made, such as test tubes. The company began making swabs in 1982, the same year Stefania's older brother Daniele, a chemical engineer, joined the family firm as general manager.

Buoyed by strong product sales—including collection cups for blood analysis machines that gained a foothold in Japan—Copan expanded overseas, opening a subsidiary in California in 1995. Three years later it moved to its current location in Brescia, a major manufacturing hub.

Daniele Triva took over after his father's death in 2000, and Copan's fortunes changed forever when he pioneered the now-ubiquitous flocked swabs in 2003. While out shopping for a winter coat, Daniele noticed how the nylon fiber strips on clothes hangers stuck closely to the fabric, and he wondered if it could be replicated in swabs. A book about Copan written by Elisa Erriu and Mario Mazzoleni recounted a story where Triva supposedly challenged his technicians to design a swab with adhesive fibers that could act like a sponge and release more sam-

The Vault

LASER BRAIN



Patent battles tend to drag on. Just ask Gordon Gould, who invented the laser, coined its name—then spent three decades fighting for credit. He had just emerged victorious when he sat down with *Forbes* in 1987.

"Though Gould is understandably angry and bitter about his long years in court, the truth is he is infinitely better off financially exactly because of the extended legal battle he fought. If he'd gotten the patents as he should have, in the early 1960s, they would all have run out by now, and the infant industry he spawned would have earned him relatively little. As it is, Gordon Gould is now worth at least $25 million [$60 million in 2022 dollars], with a lot more to come."
—*Forbes*, Dec. 14, 1987

No wonder Gould, cruising around the shores of Virginia in his new white Mercedes, was learning to let go: "Funny thing is, I'm not real angry at them anymore."

ple material than a regular Q-tip could—promising them free pizza if they succeeded. Copan maintains that the conception and invention of flocked swabs was done solely by Daniele Triva and that he actually "involved the rest of the team only for the industrialization optimization process of the product after patent filing."

The new technology revolutionized diagnostics, making it easier to conduct routine tests for viruses and bacterial infections alike. "Before flocked swabs, they used aluminum wires to take nasal samples," says Triva, grimacing.

Over the next decade, Copan expanded its California plant and opened an office in Shanghai. It began investing in automation in 2007, making proprietary machines called "walk-away specimen processors," which robotically process thousands of samples a day, 24/7.

Starting in 2012, Copan became embroiled in a patent infringement battle with its largest competitor, Puritan Medical Products, after the American firm started producing its own flocked swabs. Copan alleges Puritan is violating several of its patents. The legal battle has raged for a decade and shows no signs of abating, with victories and defeats registered in courts from Maine to Germany and Sweden.

"They've always been our 'illegal' competitor," Triva says. The ongoing lawsuit against Puritan in the U.S. District Court for the District of Maine was stayed in May 2020 to allow the two firms to focus full-time on making swabs during the pandemic; the litigation has since resumed. Puritan denies the allegations but declined to comment for this article.

A heartbreaking development occurred in 2014, when Daniele died at 54 after a seven-month battle with cancer. Stefania, who started working at the company right out of college and had been director of quality assurance and regulatory affairs, stepped up.

"It was a very tragic period . . . but I never thought about giving up," she says, taking a moment to breathe. "The only doubt I had was about our ability to go on, because my brother was a very important leader. So I met with all our longtime employees and issued a call to arms. I told them, 'We can only do this together.' "

Under her leadership, Copan hasn't stopped moving. The company established a new engineering facility near its headquarters in 2016 and later opened new offices and factories in Japan, Australia and Puerto Rico. But nothing prepared Triva, or the company, for the virulent wave of Covid-19 that washed over Italy in early 2020. The first case in the country was diagnosed on Feb. 20 in the small town of Codogno, about 80km southwest of Brescia—naturally, with a Copan-made flocked swab.

Facing a national emergency, Copan placed its employees on nonstop seven-day shifts to meet the Italian government's demand for testing swabs. It also ramped up production to provide much-needed supplies to the United States, with U.S. Air Force planes landing in Brescia late that March and into April to pick up a total of 4 million swabs.

"Brescia was massacred by Covid-19, but our employees were always there," Triva says, recalling a period when the city of 200,000 and the surrounding province were recording dozens of Covid-related deaths a day. "All you could hear was ambulance sirens, but they kept working, even on weekends and holidays."

The company hired hundreds of new workers to keep up with the extraordinary surge in demand. It also received two grants for $10 million apiece in 2020, one from Apple's Advanced Manufacturing Fund to build a new California plant, the other from the U.S. Department of Defense to increase production at its Puerto Rico factory.

"WE LOVE BEING FREE, ECLECTIC AND FAST, KNOWING THAT WE SOMETIMES NEED TO TAKE CALCULATED RISKS."

It also doubled down on robotics, launching a machine called UniVerse that automates the preparation of samples for medical tests—for Covid-19 but also other infectious diseases including tuberculosis—freeing up overworked lab technicians to focus on less menial tasks.

Copan's latest innovation is a machine that cuts diagnosis time by 80% for infections caused by antibiotic-resistant bacteria. Built-in artificial intelligence helps keep the system running smoothly. Tests can be completed in roughly four hours, and negative samples are automatically sent to the trash.

Already the strategy seems to be working: Copan WASP, the firm's automation division, recorded $54 million in revenue in the first nine months of 2021, up 39% over the previous year and exceeding its haul for all of 2020; it now makes up nearly a fifth of overall sales, the company says.

Triva credits her team, and her brother's legacy, with that success: "[Daniele] sowed an entrepreneurial culture," she says, "not just to me, but to the whole company." And as long as she's in charge, that tradition, and Copan itself, will remain all in the family.

A TRUSTED WEALTH PARTNER IN AN UNCERTAIN WORLD

HSBC Global Private Banking leverages global capabilities and expertise to help Asia Pacific investors navigate a turbulent environment.

Amid ongoing uncertainties brought on by the Covid-19 pandemic, signs of optimism have emerged in global markets as economies reopen and consumer confidence returns. Yet, risks remain and these will have an impact on investment decisions and portfolio management.

Leveraging the expertise and international connectivity of a global financial institution, HSBC Global Private Banking supports high net worth and ultra-high net worth individuals and their families across Asia Pacific as they seek opportunities amid the turbulence.

"The last two years have been very volatile and our clients are looking to us for guidance," says Siew Meng Tan, Regional Head of HSBC Global Private Banking in Asia Pacific. "As such, we are working hard to help our clients grow, manage and sustain their wealth, while opening up a world of opportunity to them."

Tan, one of the region's most highly-sought after leaders in private banking, says sustainability is among the key themes investors should be aware of this year. "It is a combination of actual investment opportunity and a focus on achieving sustainable outcomes that will be critical to our future," she says. "This is one area where you are going to see great opportunities for investment."

Another important theme is the revival of Asia in the coming years, particularly growth areas that will emerge in the post-pandemic era such as healthcare and education.

"In response to the pandemic, Asia has turned towards technological innovation, the net-zero transition, and continued growth in consumption to drive its growth in the long term," Tan says.

Achieving Optimal Diversification

With the pandemic making risk management more important than ever, HSBC Global Private Banking aims to help investors diversify their portfolios across assets and geographies in the most optimal way possible.

Asian investors who have traditionally focused on public markets are now increasingly investing in private assets and alternative investments to help reduce volatility and improve yields, Tan says. The growing interest in alternatives speaks to one of the bank's core strengths. Trade publication Asian Private Banker named HSBC Global Private Banking the Best Private Bank for Alternatives Advisory for the third consecutive year.

"Investing in private markets allows you to take a more medium to longer term view without being impacted by the volatility associated with public markets," Tan says. "This resonates very well with investors who want a more diversified portfolio."

Tan also sees rising demand for structured products which enable investors to more effectively take a view on where they believe the market is headed. "If you think a particular stock has a limited upside, or it is going down, they can express it through structured products," she explains. "Such products can also provide access to more niche asset classes such as commodities."

Geographical diversification has also become more important for ultra-high net worth families, Tan says. Spreading their wealth across multiple jurisdictions bodes well for these clients as their next-generation members increasingly prefer to live in different parts of the world. "We are talking about families with global lifestyles, and this is where our international network and expertise can help them diversify their wealth more effectively."

Meeting Changing Wealth Needs

The needs of ultra-high net worth families are likely to vary and evolve over time. This is especially true in Asia where much of the wealth has been accumulated by entrepreneurs who built and continue to run successful businesses. HSBC has supported many of these entrepreneurial families through the years, developing an intimate understanding of their needs across businesses, private wealth, and even generations.

By leveraging on HSBC's universal bank model, its private bankers are able to meet these ever-changing needs at every stage of the clients' wealth journey by bringing to bear the full capabilities of the entire group.

"This is where HSBC is able to support them, not just on the personal front, but also in terms of their business needs through our commercial banking and markets divisions," Tan says. "As many Asian businesses today are global in nature, HSBC's global connectivity allows us to offer our solutions wherever our clients have a presence."

Investing in Digital

As private banking clients become more plugged into technology, HSBC is engaging them through various digital channels such as mobile apps that enable remote transactions or through communication platforms such as WhatsApp and WeChat.

Siew Meng Tan, Regional Head of HSBC Global Private Banking, Asia Pacific

"If we want to effectively serve our clients' needs, then our digitalisation drive is of utmost importance," Tan says. "If we are not interacting with them through channels that they are regularly utilising, then I think we wouldn't be in a position to compete. Digitalisation is an absolute strategic priority for us. Our clients are very busy and sometimes it's difficult for them to find the time to call us. We want them to have an online platform where they can safely discuss their investments anywhere and anytime, at their own convenience."

Reflecting the bank's commitment to digitalisation, Tan said HSBC Global Private Banking is investing more than US$100 million in Asia over a two-year period to build and innovate its core banking and digital platforms.

HSBC's efforts have not gone unnoticed. Among the seven awards HSBC Global Private Banking received from Asian Private Banker this year are the Best Private Bank for Client Experience and blue-ribbon Best Private Bank in Asia Pacific, accolades that reflect the strides it has taken to deliver industry-leading client offerings and services.

Looking ahead, HSBC Global Private Banking will continue to craft solutions that are designed to support their clients as they progress on their wealth journeys in a landscape marked by constant disruptions.

"As one of the world's leading private banks, we pride ourselves on being able to understand the needs of our clients and the market environment to bring personalised solutions," Tan says. "This is delivered through our global network, our universal banking model, as well as the investments that we are making into digital."

HSBC
Global Private Banking

privatebanking.hsbc.com

MIXED FORTUNES

Collective wealth is down a tad amid looming uncertainties.

BY **JANE HO**

After contracting in 2020, Hong Kong's economy revived with a 6.4% rise in 2021 on an uptick in exports and domestic consumption. But strict curbs brought on by the city's zero-tolerance policy toward Covid-19 impacted the benchmark Hang Seng index, which declined 16% in the past 12 months. Under such mixed circumstances, the combined wealth of the city's 50 richest dipped slightly at $328 billion from $331 billion last year.

More than half of the listees saw their wealth increase, led by the top three. **Li Ka-shing** retained his prime spot with $36 billion, thanks partly to new information on his assets. Resilience in Hong Kong's residential market lifted shares of his property developer CK Asset Holdings by a third from a year ago, offsetting the decline in his holding in videoconference provider Zoom. Real estate tycoon **Lee Shau Kee**, whose Henderson Land scooped up a prime commercial plot in the city for a record $6.5 billion, increased his wealth by 12% to $34.2 billion to remain at No. 2.

Henry Cheng, son of the late property magnate Cheng Yu-tung and at No. 3 since 2020, is the biggest dollar gainer, up by $4.3 billion. Shares of his Chow Tai Fook Jewellery Group jumped 40% on soaring sales, helping to boost his fortune that he shares with his family, to $26.4 billion.


No. 3 Henry Cheng

Payoffs from backing startups produced this year's two biggest percentage gainers. Real estate matriarch **Chan Tan Ching-fen** more than doubled her wealth to $3.9 billion, thanks to her investment in video-sharing platform Kuaishou Technology, which went public last year raising $5.3 billion. Shipping tycoon **Harindarpal Banga** saw his net worth surge 97% to $2.85 billion, following the November IPO of India's online beauty retailer Nykaa, where he was an early investor.

Among the three new faces on the list is college professor **Tang Xiao'ou**, cofounder of AI firm SenseTime, who debuts at No. 16 with $6 billion after the company's January IPO. Rising demand for power tools drove up shares of Techtronic Industries, earning cofounder **Roy Chi Ping Chung** a place on the 50 richest for the first time. The **Lee siblings** inherited the oyster sauce empire of their father Lee Man Tat, who died last July, and appear at No. 4 with $18.9 billion.

As smartphone sales flatlined leaving manufacturers with excess inventory, **Yeung Kin-man** and **Lam Wai-ying,** the couple behind smartphone glass cover maker Biel Crystal suffered the biggest hit this year. Their combined wealth more than halved to $8.9 billion and they slipped six places to No. 10. The wealth of casino moguls **Lui Che Woo, Pansy Ho, Angela Leong** and **Lawrence Ho** shrank amid travel restrictions and Beijing's crackdown on cross-border gambling.

In the past year, two prominent property tycoons died: Hong Kong's "shop king" Tang Shing-bor and Fong Yun Wah of Hip Shing Hong Group. Their fortunes got subdivided among several heirs, none wealthy enough to make the rankings individually. The cutoff for the list dropped slightly from last year's $1 billion. **Kenneth Lo**, founder of clothing manufacturer Crystal International, was the sole returnee at No. 50 with $955 million.

Editing assistance and reporting by Anuradha Raghunathan. Additional reporting by Angel Au-Yeung, Jonathan Burgos, Russell Flannery, John Kang, Zinnia Lee, Robert Olsen, Jessica Tan, Simran Vaswani, Yue Wang and Candice Wong.

METHODOLOGY: The list was compiled using information from individuals, analysts, government agencies, stock exchanges, databases and other sources. Net worths were based on stock prices and exchange rates as of the close of markets on Feb. 4 and real-time net worths on Forbes.com may reflect different valuations. Private companies were valued by using financial ratios and other comparisons with similar companies that are publicly traded. The estimates include a spouse's wealth and, where the person is the company founder, also include the wealth of children and siblings that is derived from that company. The list can also include foreign citizens with business, residential or other ties to the city, or citizens who don't reside in the city but have significant business or other ties to the city. The editors reserve the right to amend any information or remove any listees in light of new information.

JONATHAN WONG/SCMP/NEWSCOM

VISUAL CHINA GROUP/GETTY IMAGES

Hanging On

JOSEPH LAU & CHAN HOI WAN

Billionaire property tycoon Joseph Lau had a wild ride in 2021, but still managed to emerge with a gain. His Hong Kong-listed Chinese Estates estimated it lost about HK$7.9 billion ($1 billion) last year after selling the bulk of its holdings in cash-strapped developer China Evergrande. That wiped out a third of Chinese Estates' value. Yet helped by stable valuations of his privately held prime assets in Hong Kong, including the 18-story Windsor House office and retail complex in Causeway Bay, Lau's net worth edged up to $13.7 billion.

Lau, 70, and Evergrande chairman Hui Ka Yan are long-time business partners and poker buddies. Chinese Estates—the sole cornerstone investor when Shenzhen-based Evergrande went public in 2009—still had HK$3 billion worth of Evergrande shares as of end-2021, and the company says this could lead to further losses this year.

In 2017, citing serious health issues, Lau said he transferred most of his wealth to his wife, Chan Hoi Wan, and son. Chan is CEO of Chinese Estates. Last year, in a bid to stem a slump in Chinese Estate shares, Chan proposed taking the company private but minority shareholders rejected the offered HK$4 a share—then a 38% premium—as too low.

Shares of Evergrande—one of China's most indebted companies with liabilities of over $300 billion—tumbled more than 90% last year as it struggled to meet financial obligations. It defaulted on several payments to bondholders and Chinese retail investors who bought its wealth products. —*Jonathan Burgos*

HONG KONG'S 50 RICHEST

1. LI KA-SHING
$36 BILLION ▲
CK HUTCHINSON,
CK ASSET HOLDINGS
AGE: 93

2. LEE SHAU KEE
$34.2 BILLION ▲
HENDERSON LAND DEVELOPMENT
AGE: 94

3. HENRY CHENG & FAMILY
$26.4 BILLION ▲
CHOW TAI FOOK,
NEW WORLD DEVELOPMENT
AGE: 75

4. LEE SIBLINGS
$18.9 BILLION ★
LKK GROUP

5. PETER WOO
$18.7 BILLION ▲
WHEELOCK & CO.
AGE: 75

6. JOSEPH LAU
$13.7 BILLION ▲
CHINESE ESTATES HOLDINGS
AGE: 70

7. KWONG SIU-HING
$13.2 BILLION ▼
SUN HUNG KAI PROPERTIES
AGE: 92

CHANGE IN WEALTH KEY:
▲ UP ▼ DOWN ◀▶ UNCHANGED
★ NEW TO THE LIST ↩ RETURNEE

HONG KONG'S 50 RICHEST

8. LUI CHE WOO
$12.8 BILLION ▼
GALAXY ENTERTAINMENT GROUP
AGE: 92

9. JOSEPH TSAI
$9.1 BILLION ▼
ALIBABA GROUP
AGE: 58

10. YEUNG KIN-MAN & LAM WAI-YING
$8.9 BILLION ▼
BIEL CRYSTAL

11. FRANCIS CHOI
$8.1 BILLION ▲
EARLY LIGHT INTERNATIONAL
AGE: 74

12. HORST JULIUS PUDWILL
$7.4 BILLION ▲
TECHTRONIC INDUSTRIES
AGE: 77

13. MICHAEL KADOORIE
$7.3 BILLION ▲
CLP HOLDINGS,
HONGKONG & SHANGHAI HOTELS
AGE: 80

14. LAW KAR PO
$6.6 BILLION ▲
PARK HOTEL GROUP
AGE: 73

CHANGE IN WEALTH KEY:
▲ UP ▼ DOWN ◀▶ UNCHANGED
★ NEW TO THE LIST ⮌ RETURNEE

COURTESY OF SENSETIME

Making Sense

TANG XIAO'OU

The growing appetite for AI stocks fueled the red-hot market debut of Shanghai-based smart-tech pioneer SenseTime and propelled cofounder Tang Xiao'ou onto the list for the first time with a $6 billion fortune. SenseTime—the first of China's AI companies to list—had its $740 million IPO in Hong Kong in December.

Investors like SenseTime stock's prospects due to the scarcity of AI stocks in Asia, says Ke Yan, head of research at Singapore-based DZT Research. The strong performance, however, comes under the shadow of U.S. sanctions against the company over its face-recognition software that Washington alleges helps Beijing monitor ethnic Uyghurs in China. The company in a statement on its website strongly rejects the accusations.

The move should have little impact on sales growth, says Ke. In the first half of 2021, SenseTime generated 1.7 billion yuan ($260 million) in sales, up 92% from a year earlier. But the company has yet to turn a profit, with losses standing at $581 million amid heavy R&D spending. About half of its revenue came from the Chinese government, which deploys its technology in a range of areas, from healthcare to traffic management.

Tang, SenseTime's largest shareholder and executive director, continues to teach at the Chinese University of Hong Kong. The 54-year-old information engineering professor (who got his doctorate from MIT) cofounded the company in 2014 with two students, raising $5.2 billion from investors over 12 funding rounds. The company says it plans to use the bulk of the IPO money to improve computing power, AI chip design and new products. It recently launched an AI data center in Shanghai that's expected to become one of the largest in Asia. The supercomputer infrastructure, it says, will help the firm scale up. *—Yue Wang*

PAUL YEUNG/BLOOMBERG

Going Forward

RICHARD LI

On the plate of Richard Li, chairman of private investment company Pacific Century Group, there's a major piece of unfinished business from 2021—listing regional life insurer FWD. In December, Hong Kong-headquartered FWD pulled the plug on a long-anticipated U.S. IPO amid China's scrutiny of overseas listings.

FWD is now expected to go public in Hong Kong this year. A FWD spokesman declined to comment on the IPO plan, saying "I can't confirm anything other than we're considering alternatives." Li, whose fortune increased to $4.7 billion from $4.4 billion, owns 84% of FWD. Minority shareholders include reinsurance giant Swiss Re and Singapore's GIC Ventures.

The 55-year-old son of billionaire Li Ka Shing has made FWD a priority. Over December and January, the company raised $1.6 billion via private placements to bolster growth and pare debt. Touted as a digital-led insurance venture, FWD was launched in 2013 in Hong Kong and Thailand. Today, it's in 10 markets including Japan and Vietnam. In a November SEC filing, the company reported a $131 million net profit for the first nine months, compared with a net loss of $306 million a year earlier.

A second business involving Li also aims to get listed this year. In July 2021, Nasdaq-listed Bridgetown 2 Holdings, a blank-check company he controls with fellow billionaire Peter Thiel, announced plans to merge with Singapore-based PropertyGuru, a regional real estate platform. The announcement put a value of $1.8 billion on the combined entity, which looks to list on the New York Stock Exchange. *—Jessica Tan*

15. TUNG CHEE HWA & CHEE CHEN

$6.5 BILLION ▲
ORIENT OVERSEAS
AGE: 84, 79

16. TANG XIAO'OU

$6 BILLION ★
SENSETIME
AGE: 54

17. GEOFFREY & JONATHAN KWOK

$5.2 BILLION ▲
SUN HUNG KAI PROPERTIES
AGES: 36, 29

18. RICHARD LI

$4.7 BILLION ▲
FWD GROUP
AGE: 55

20. THOMAS & ADAM KWOK

$4.5 BILLION ▲
SUN HUNG KAI PROPERTIES
AGES: 70, 38

20. RAYMOND, EDWARD & CHRISTOPHER KWOK

$4.46 BILLION ▼
SUN HUNG KAI PROPERTIES
AGES: 68, 40, 35

21. PATRICK LEE

$4.44 BILLION ▼
LEE & MAN PAPER MANUFACTURING
AGE: 80

HONG KONG'S 50 RICHEST

22. EDWIN LEONG
$4.4 BILLION ▲
TAI HUNG FAI ENTERPRISE
AGE: 70

23. SAMUEL TAK LEE
$4.2 BILLION ▲
LANGHAM ESTATE
AGE: 82

24. WONG MAN LI
$4.1 BILLION ▼
MAN WAH HOLDINGS
AGE: 57

25. CHAN TAN CHING-FEN
$3.9 BILLION ▲
HANG LUNG GROUP

26. HELMUT SOHMEN
$3.6 BILLION ▲
BW GROUP
AGE: 82

27. RONALD MCAULAY
$3.55 BILLION ▲
CLP HOLDINGS
AGE: 86

28. PANSY HO
$3.4 BILLION ▼
MGM CHINA
SHUN TAK HOLDINGS
AGE: 59

CHANGE IN WEALTH KEY:
▲ UP ▼ DOWN ◀▶ UNCHANGED
★ NEW TO THE LIST RETURNEE

Wealth Creation

Speed Limits

The good news is that after two years of recession, Hong Kong's economy heated up last year. GDP hit 6.4% in 2021, thanks to strong exports, rising retail sales—boosted by $4.6 billion in government spending vouchers—and months of Covid calm. Growth is expected to continue this year, albeit at a slower pace, and Hong Kong stocks so far are among Asia's top performers. This follows last year's rout, dished up by Beijing's regulatory crackdowns and the Evergrande debt crisis, that saw Hong Kong's benchmark index end 2021 down 15%, its worst performance in a decade.

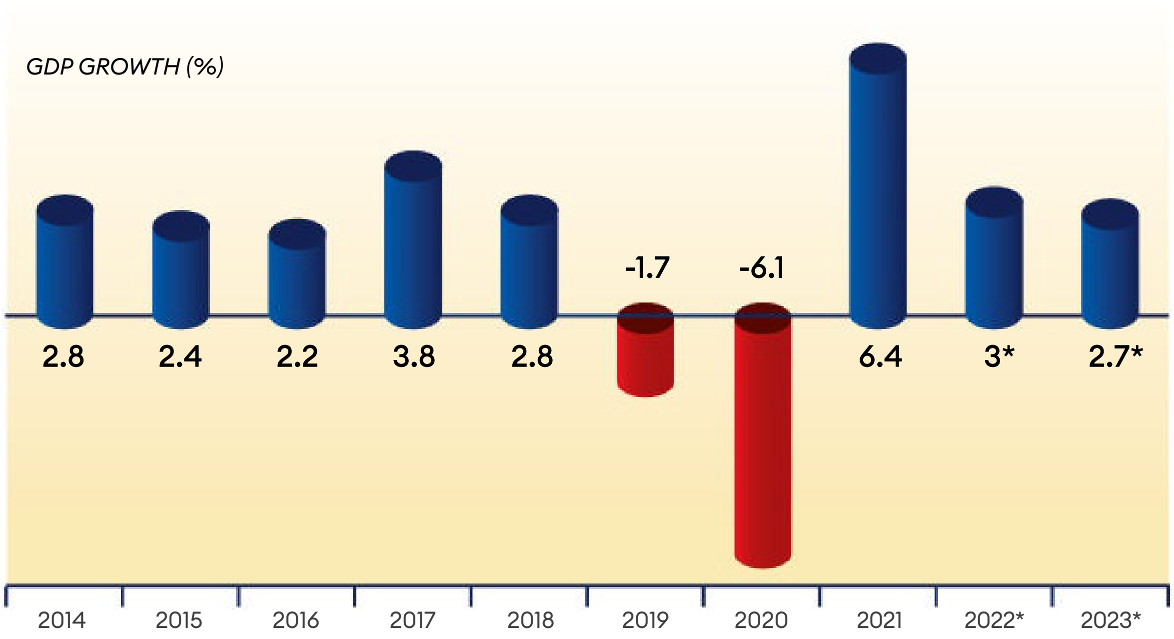
Much will depend on Hong Kong managing omicron amid rising infections. The global financial hub, where about 75% are double-jabbed, already has some of the world's toughest pandemic restrictions. It all but closed its borders (airport passenger numbers plunged 85% last year) while schools, bars and gyms have shut. As the government struggles to contain its worst outbreak to date, fresh tightening of social-distancing measures—and, more importantly, a delay in resuming quarantine-free cross-border travel with mainland China—could dampen the outlook.

Inflation is also on the rise and then there's the much talked-about brain drain. A net of about 90,000 left last year, largely attributed to the city's restrictive zero-Covid approach and the political and educational changes. These departures could make it harder for companies to find talent.

It's been over four decades since Nobel prize-winning economist Milton Friedman praised Hong Kong ("If you want to see how the free market really works, this is the place to come," he said in 1980.) Today, there's concern that China's drive for "common prosperity" now threatens that free-market reputation. —*Rainer Michael Preiss*

Upward Pull

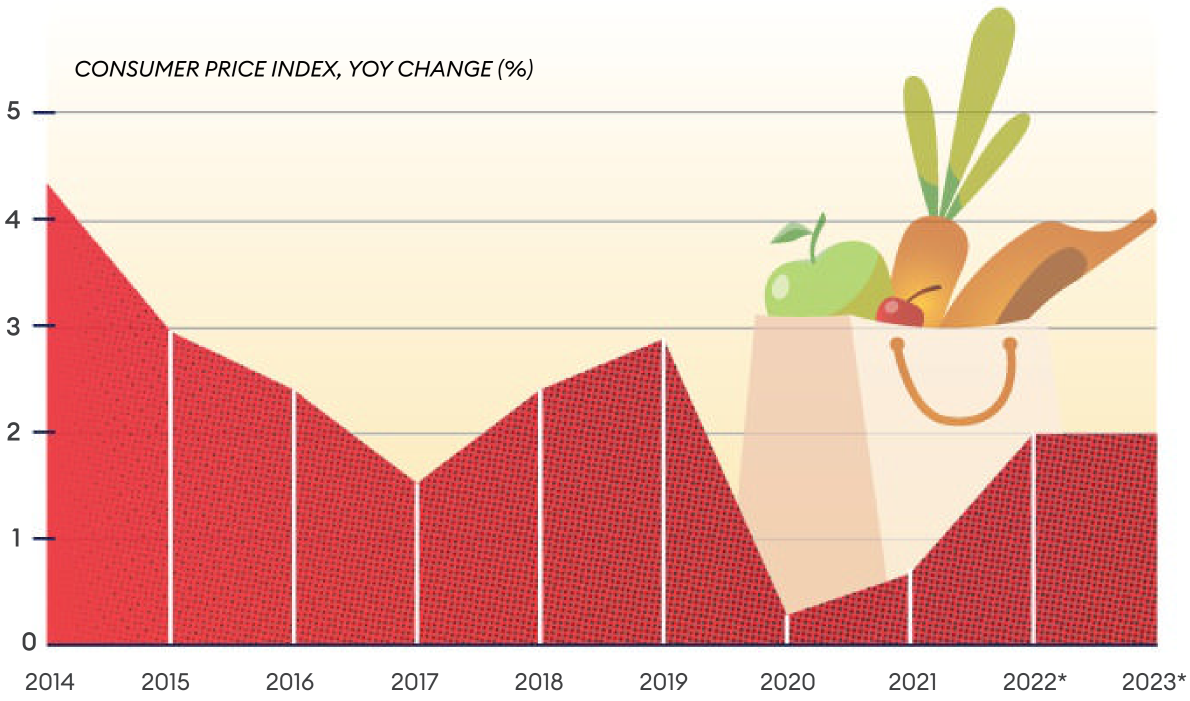
Hong Kong's economy made a full recovery in 2021, ending two years of recession.



*•Forecast
Source: Bloomberg, Hong Kong government*

Pressure Points

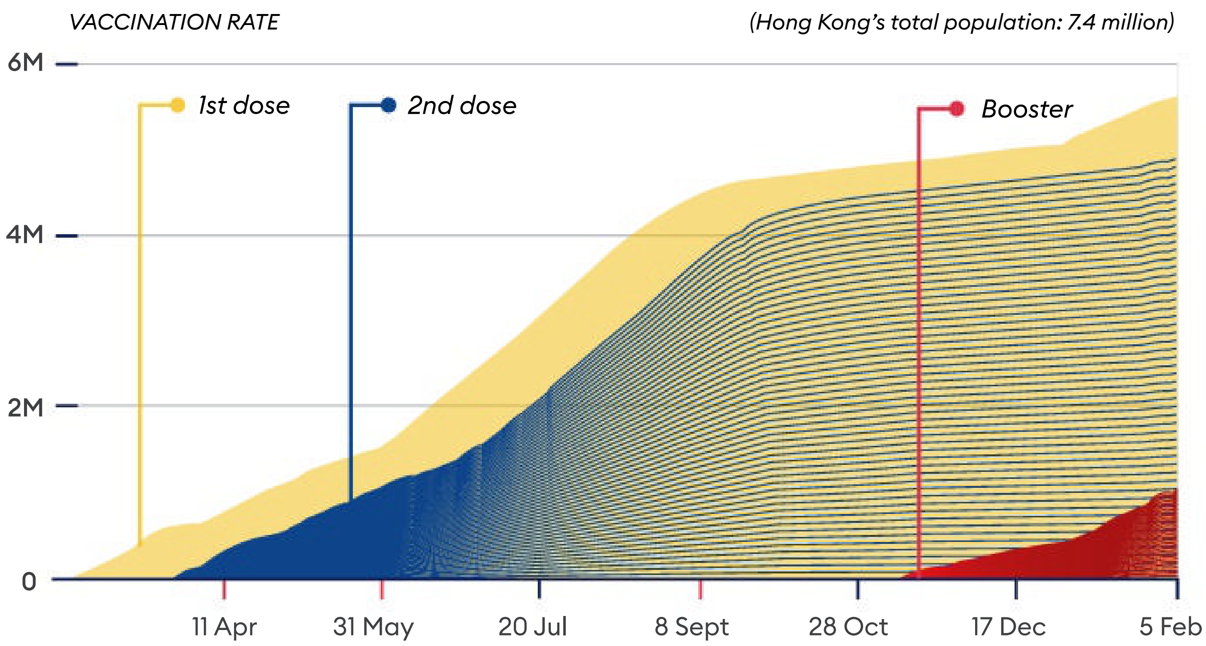
Consumer prices are set to rise as Hong Kong pursues a zero-Covid strategy.



*Forecast
Source: Bloomberg, Hong Kong government

Rising Tide

About 75% of Hong Kong's population has had their second shot as the government expands its booster program.



Source: Our World in Data, Hong Kong government

29. OR WAI SHEUN
$3.3 BILLION ▲
KOWLOON DEVELOPMENT
AGE: 70

30. RITA TONG LIU
$3.2 BILLION ▼
GALE WELL GROUP
AGE: 73

31. MARTIN LAU
$3 BILLION ▼
TENCENT
AGE: 48

32. JEAN SALATA
$2.95 BILLION ▲
BARING PRIVATE EQUITY ASIA
AGE: 56

33. ANGELA LEONG
$2.9 BILLION ▼
SJM HOLDINGS
AGE: 60

34. HARINDARPAL BANGA
$2.85 BILLION ▲
CARAVEL GROUP
AGE: 71

35. TANG YIU
$2.4 BILLION ▲
BELLE INTERNATIONAL
AGE: 87

36. DANIEL CHIU
$2.1 BILLION ▲
CHINA GAS HOLDINGS
AGE: 61

HONG KONG'S 50 RICHEST

37. MICHAEL YING
$2.05 BILLION ▼
ESPRIT
AGE: 72

38. ROBERT MILLER
$2 BILLION ▼
DFS GROUP
AGE: 88

39. LI SZE LIM
$1.73 BILLION ▼
R&F PROPERTIES
AGE: 64

40. GORDON WU
$1.7 BILLION ▼
HOPEWELL HOLDINGS
AGE: 86

41. GOODWIN GAW & FAMILY
$1.67 BILLION ▲
GAW CAPITAL PARTNERS
AGE: 54

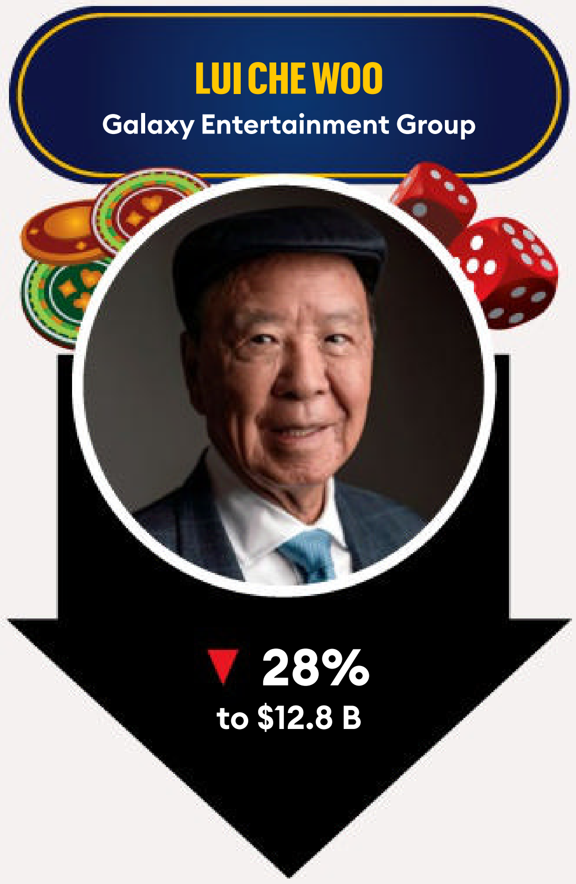
42. ZHUO JUN
$1.66 BILLION ▲
SHENZHEN KINWONG ELECTRONIC
AGE: 56

43. VINCENT LO
$1.65 BILLION ▼
SHUI ON LAND
AGE: 72

CHANGE IN WEALTH KEY:
▲ UP ▼ DOWN ◀▶ UNCHANGED
★ NEW TO THE LIST RETURNEE

Casino Moguls

High Stakes



Hong Kong's casino moguls saw a turn in fortunes as Macau pulled back from making drastic changes to laws controlling the world's largest gambling hub by revenue, ending years of uncertainty in the sector. Locally listed casino stocks surged in January after the government unveiled draft legislation that maintained the current number of casino licenses ahead of renewal deadlines in June.

Macau also dropped proposals to increase the gaming tax, restrict dividends and appoint casino monitors from the China-backed measures aimed at diversifying the city's economy beyond casinos. "The government's stance on some contentious topics has become far less onerous, if not surprisingly accommodative," JPMorgan analysts wrote in a note following the announcement.

Still, the rebound is nowhere close to undoing the market rout that began when the pandemic struck in early 2020, causing visitor numbers to plunge. Lui Che Woo, chairman of Galaxy Entertainment Group, and his family saw their net worth fall 28% to $12.8 billion. MGM China co-chair Pansy Ho—among the most prominent of late Macau gaming magnate Stanley Ho's 17 children from four wives—saw her wealth drop 17% to $3.4 billion.

Angela Leong, Ho's fourth wife and SJM Holdings' largest individual shareholder, witnessed a 12% drop to $2.9 billion. Pansy's younger brother Lawrence Ho, who controls Melco Resorts through Hong Kong-listed Melco International Development, saw his fortune tumble 37% to $1.25 billion. All declined to comment.

Macau's casinos still face a long road to recovery. Gaming revenue rose 43% to $10.8 billion last year—barely a third of pre-pandemic levels ($36.5 billion in 2019). Even when travel curbs are fully lifted, high rollers from mainland China, who accounted for about half of Macau's pre-pandemic gaming revenue, are unlikely to return in force amid a government crackdown on illegal cross-border gambling.

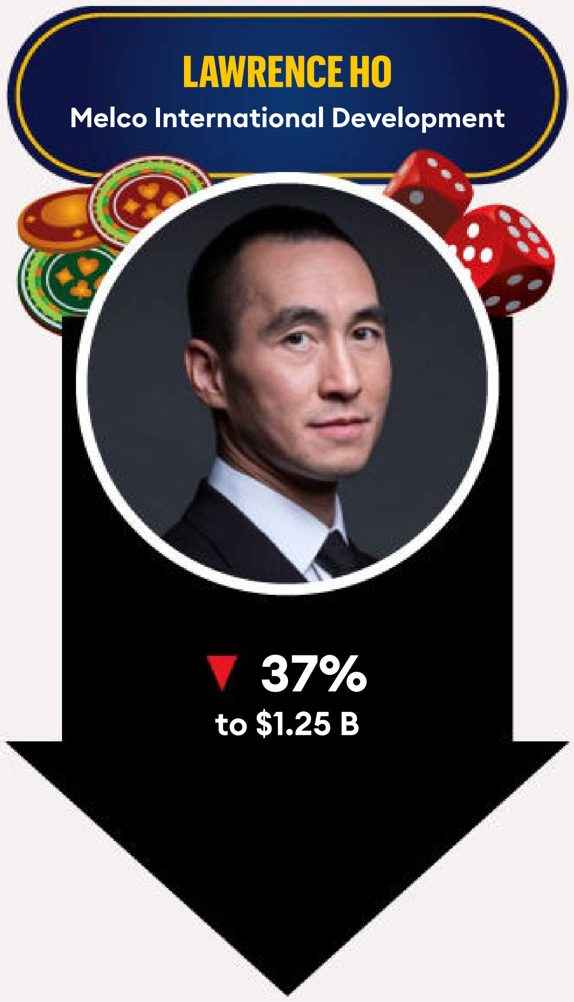
In late January, Macau police arrested Chan Weng Lin, head of casino group Macau Legend Development and junket operator Tak Chun Group, for alleged money laundering. It comes on the heels of the high-profile arrest of Alvin Chau, founder of Suncity Group, which closed all of its VIP gambling rooms in the city in December. Chan and Chau couldn't be reached for comment.

Property development has been seen as a safe bet by the casino tycoons, even

LUI: ANTHONY KWAN/BLOOMBERG

as they align themselves with China's plan to transform the former Portuguese colony into a leisure and tourism hub. Galaxy's Lui also heads Hong Kong-listed property developer K. Wah International Holdings alongside his daughter Paddy and son Alexander, while his eldest son, Francis, oversees Galaxy. In pledging to back the regulatory overhaul, Liu noted it accords "top priority" to China and Macau's security and seeks to promote "Macau's economic diversification and sustainable development."

Meanwhile Pansy Ho's Shun Tak Holdings in December reportedly withdrew from a S$557 million ($414 million) deal to buy a prime residential site near Singapore's Orchard Road shopping belt after the government introduced property cooling measures there. It would have been the group's fifth investment in one of the world's most expensive property markets. Shun Tak didn't respond to a request for comment. *—Yessar Rosendar*



PANSY: JAYNE RUSSELL/GEISLER-FOTOPRESS/NEWSCOM; LEONG: JEROME FAVRE/BLOOMBERG; LAWRENCE: JUSTIN CHIN/ BLOOMBERG

HONG KONG'S 50 RICHEST

44. JIM THOMPSON
$1.5 BILLION ▲
CROWN WORLDWIDE GROUP
AGE: 82

45. VIVIEN CHEN
$1.3 BILLION ▲
NAN FUNG GROUP
AGE: 63

46. LAWRENCE HO
$1.25 BILLION ▼
MELCO INTERNATIONAL DEVELOPMENT
AGE: 45

47. ALLAN WONG
$1.2 BILLION ▲
VTECH
AGE: 71

48. POLLYANNA CHU
$1.15 BILLION ▲
KINGSTON FINANCIAL GROUP
AGE: 63

49. ROY CHI PING CHUNG
$1.1 BILLION ★
TECHTRONIC INDUSTRIES
AGE: 68

50. KENNETH LO
$955 MILLION
CRYSTAL INTERNATIONAL
AGE: 83

FOR MORE INFO, GO TO FORBES.COM/HONGKONG

FREIGHT EXPECTA

f

FLEXPORT CEO RYAN PETERSEN BECAME THE SELF-APPOINTED FACE OF SUPPLY-CHAIN SOLUTIONS IN 2021 BY THINKING OUTSIDE THE CONTAINER. NOW HIS $8 BILLION STARTUP NEEDS TO PROVE IT'S MORE THAN JUST SILICON VALLEY HYPE.

BY ALEX KONRAD

TIONS

PHOTOGRAPHY BY JAMEL TOPPIN FOR FORBES

As THE FERRY TO SAN FRANCISCO EXITS OAKLAND'S HARBOR, FLEXPORT'S FOUNDER AND CEO, RYAN PETERSEN, TURNS TO WATCH A TOWERING 113-METER CRANE HOOK SHIPPING CONTAINERS, ONE BY ONE, ONTO THE DECK OF A CARGO SHIP.

Petersen admires the neat rows of rectangles colored blue, rust red and an occasional teal, stacked on the post-Panamax-class ship bound for Yokohama, Japan.

"I wish I could look inside with a HoloLens to see which containers are Flexport's," he says, imagining that Microsoft's augmented-reality glasses had an X-ray feature. "Any container ship on the West Coast, I guarantee we are on there."

It sounds like bravado, but for Petersen, 41, it's simple math. Flexport owns no trains, planes or ships of its own. But as one of the fastest-growing players in a space called digital freight forwarding, Petersen's eight-year-old company is already the world's seventh-biggest buyer of cargo room on such trans-Pacific routes. Pretty much any Asia-bound ship will have at least a container or two filled with California almonds or auto parts put there by Flexport's software.

Backed by some of Silicon Valley's most prominent VCs and tech billionaires, including Peter Thiel's Founders Fund, Yuri Milner and Masayoshi Son, Flexport was founded in 2013 to automate paper customs forms. It now does much more, helping customers like Georgia-Pacific (Brawny paper towels, Angel Soft toilet paper), plumbing fixtures maker Gerber and speaker maker Sonos handle all the headaches of shipping inventory from factory to warehouse to store. Flexport's software analyzes and optimizes a customer's supply chain, then automates it, often coming up with ways to shave days off delivery and save customers millions in late fees. Flexport's centralized tracking and messaging cut out thousands of emails, saving clients an average of four work hours per week. For a price, Flexport will even offset their carbon footprint.

Shipping is a huge pond. Global spending on logistics reached $9 trillion in 2020, about 11% of the world's gross domestic product, according to consultancy Armstrong & Associates. Third-party logistics, of which freight forwarding is a big part, amounts to nearly $1 trillion. In the U.S., it's a $230 billion business, good for 1.1% of national GDP. Demand is at a record high—global trade volumes rose 8.3% in 2021, according to Allianz subsidiary Euler Hermes. Americans spent 20% more on goods last fall than in February 2020.

Supply can't keep up. Goods from China to the U.S. now take more than a month longer to arrive than they did in 2019, while the cost of shipping a container has soared from under $2,000 pre-pandemic to more than $20,000 last summer (the current price is around $15,000). Average folks who never gave a thought to the global supply chain are paying attention now. An Oracle survey of 1,000 U.S. adults found that 87% reported being negatively affected by shipping struggles; half said they'd canceled an order in recent months.

For Flexport, it all means business is booming. Sales reached $3.3 billion in 2021, up from $1.3 billion in 2020 and $670 million the year before (Flexport passes about 80% of its revenue directly to its shipping partners). Last year, the San Francisco–based firm generated its first profit, posting net income of $37 million.

No surprise, then, that powerful investors keep piling in. The newest: Andreessen Horowitz, the prominent venture capital firm that joined Founders Fund, e-commerce standout Shopify and others in arming Petersen with a fresh $900 million war chest at an $8 billion valuation in January. *Forbes* estimates Petersen's 9% stake in Flexport is worth $650 million, after our standard 10% private-company discount. Add in a prolific angel investment portfolio and part ownership of a profitable side business, and he's closer to $750 million, knocking on the door of billionaire status. (If *Forbes* valued Petersen's stake using the price of Flexport shares on the secondary markets, he'd already be there, worth just over $1.1 billion.)

But Petersen doesn't want to be seen as a pandemic profiteer, getting rich as his customers pay unprecedented prices. He'd rather be seen as shipping's Mr. Fix-It. Flexport is combing through customer data trying to fill each precious container more completely (most ship only 70% full). It's rerouting lighter, higher-value products like Everlane's popular sweaters from sea to air. It helped set up a private rail ramp in Iowa for goods coming from the West Coast to avoid Chicago congestion. For businesses facing inventory crunches, it built an app for truckers to tap into and learn where they'll be needed 10 days in advance.

Petersen also hasn't been shy about building his public image. Early in lockdown, he sent hundreds of thousands of units of personal protective equipment to Wuhan, China—then set his team to routing much more back when the virus reached U.S. shores, booking special planes to ship masks by the millions while rallying the public to donate funds. When a ship ran aground in the Suez Canal last March, Petersen demystified the situation on social media and in interviews, even publishing a supply chain explainer picture book for kids. And when the backup of ships waiting to unload at major ports reached a breaking point last fall, it was Petersen who showed up at the Port of Long Beach in California to charter a boat and tweet what he saw, prompting a viral response including a call from Governor Gavin Newsom and an overnight policy change to stack containers higher in local yards.

To insiders in the famously quiet logistics industry, each interview and TV appearance is more testament to Petersen's opportunism than market leadership. One vocal critic frequently refers to Petersen in dismissive LinkedIn posts as "Private Ryan." "[Flexport has] made a lot of enemies in the space," says a veteran industry exec who didn't want to be named for fear of losing business with Petersen.

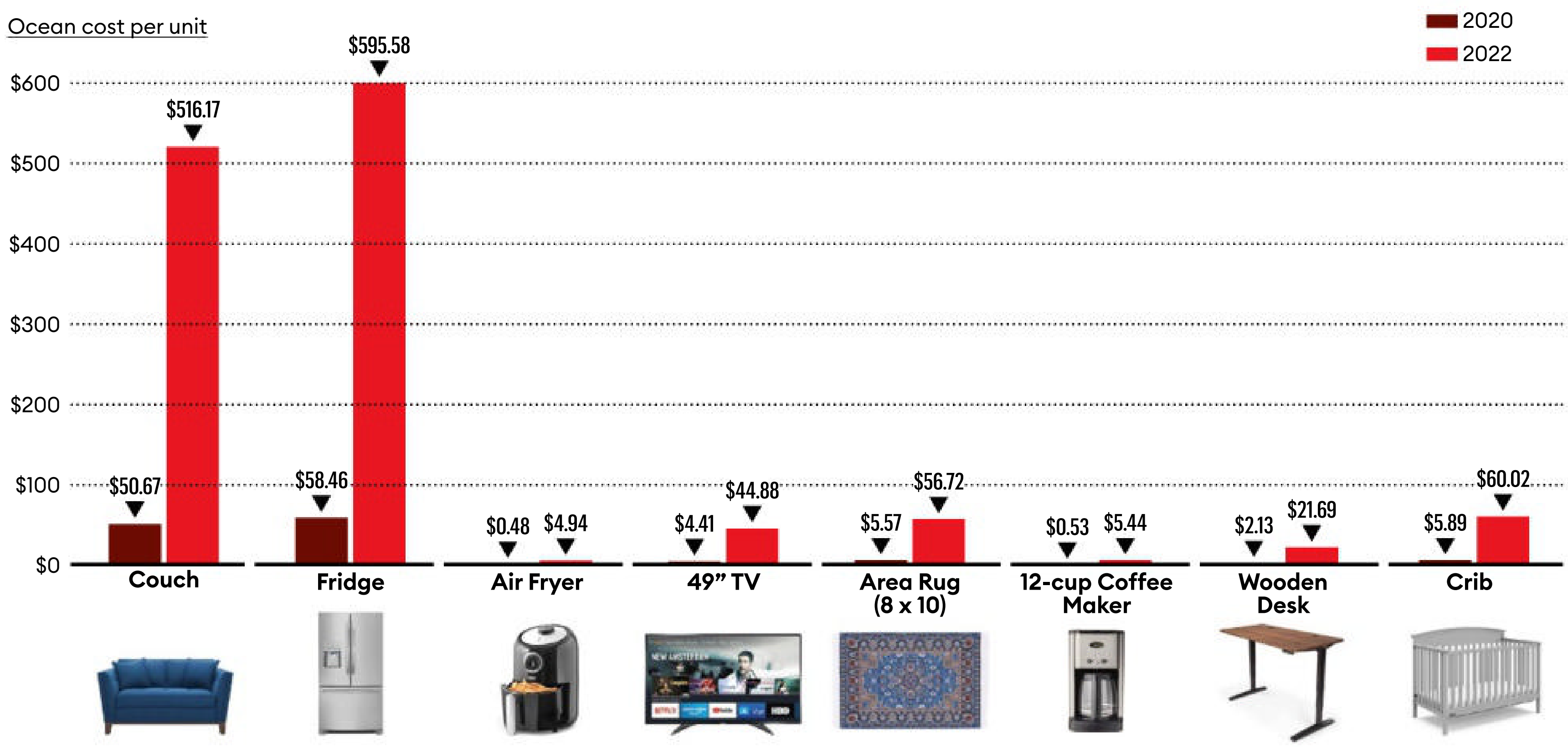
But no one can dispute Petersen's efficacy. "Every crisis needs a hero, and Ryan Petersen positioned himself as the face of this," concedes Craig Fuller, who runs an industry data-and-news site called FreightWaves. "He engages where a lot of executives won't. It's what the public wanted to see."

As Petersen positions Flexport to go on offense when the shipping world returns (soon, one hopes) to some semblance of normalcy, he's eager to silence the doubters. "If we can fix problems for Flexport, we can fix problems for the wider world," he says. "We have a chip on our shoulders. People should believe in us."

PETERSEN GREW UP surrounded by entrepreneurs in Bethesda, Maryland, just inside D.C.'s Capital Beltway. His mother, a biochemist, ran a business helping companies manage food safety regulations. His father was a gov-

RAPACIOUS RATES

The cost of shipping a couch from Asia to America's west coast has jumped more than 10 times in the past two years; ditto for coffee makers and fridges. Consumers are bearing the burden: Prices for these eight common household items jumped between 19% and 51% over that time.



Source: Freightos

METAVERSE: FROM DREAM TO REALITY

T&B Media Global Founder and CEO Dr. Jwanwat Ahriyavraromp explains why is it important to build a metaverse the right way, one that is based on purpose and legacy.

For many years, the concept of the metaverse—a term used to describe the next evolution of the internet and a virtual world where people can socialize, work and play—has been merely a dream, or perhaps a vision, for technopreneurs.

This is understandable given that the development of a metaverse requires advancements in multiple technologies, including artificial intelligence (AI), virtual reality (VR), augmented reality (AR), wearables, blockchain and cloud computing. However, with the progress made by tech companies in recent years, metaverses are on course to become a reality sooner rather than later.

Creating Happiness with the Translucia Metaverse

Over the past year, many large global companies—from tech giants such as Alphabet and Meta (formerly known as Facebook) to consumer products like Coca-Cola and Nike—have shown growing interest in metaverses.

But interest in metaverses is not only being generated by US-based corporations. Bangkok-headquartered T&B Media Global has also announced ambitious plans to develop its own metaverse. T&B Media Global Founder and CEO Dr. Jwanwat Ahriyavraromp calls the company's creation Translucia: a metaverse designed to contribute to the society and economy by "transforming the way we live and experience life."

T&B Media Global Founder and CEO, Dr. Jwanwat Ahriyavraromp

Unlike other metaverses, however, Ahriyavraromp sees Translucia serving a greater purpose. "Like other metaverses, Translucia is an integration of advanced technologies, imagination and creativity. Unlike other metaverses, Translucia focuses on creating happiness, not only from external sources but also internally from one's mind and body," he says.

A Four-level Metaverse

The Translucia Metaverse, into which T&B Media Global is investing US$300 million (10 billion baht), will comprise four key levels: Central Translucia, Pillars of Nature, Nature's True Home and Beyond Boundless.

According to Ahriyavraromp, Central Translucia—also known as the Central Hub of Limitless Opportunities—is a place where you can pursue various interests, and where dreams can become real. The Pillars of Nature comprises various fascinating ecosystems, including flora and fauna, to be explored and discovered, while in Nature's True Home, users have access to a "hidden realm of nature's wonders and enchantments" that, Ahriyavraromp says, is "a special world where you can choose your destiny as nature's guardian."

As for Beyond Boundless, Ahriyavraromp describes it as "a place where the mind and soul will find rest and be lifted by those we love and trust."

Endless Possibilities

At December's Metaverse Unlimited, the first international forum organized by Translucia, metaverse experts from around the world agreed that there are endless possibilities in terms of how metaverses can benefit mankind.

Pat Pataranutaporn, Research Assistant and Ph.D. candidate at MIT Media Lab, believes technologies that enable the metaverse can help humans to stay healthier through closed-loop wearables. Humans are also able to make better decisions with human-AI symbiosis, and learn better with AI-generated characters, he adds.

Pataranutaporn also says that, by having wearables that are able to tap into the body's biological information, visiting clinics and hospitals for health checkups may become a thing of the past, while wearable technologies capable of producing medicine within a person's body are also a possibility. "Now, with the advancement in synthetic biology, we can have the capability to use bacteria cells in the body as a living medicine factory," he says.

He also sees the metaverse playing another big role in Thailand, which is increasingly becoming an aging society. "With technologies that enable the metaverse, we can potentially live a healthier lifestyle, and even live longer. As you are aware, Thailand is becoming an aging society. So, we need to think of ways we can help those people and create society wisdom, so that we can empower the younger generation to create a better future," he says.

Unlike other Metaverses, Translucia focuses on creating happiness, not only from external sources but also internally from one's mind and body.

Meanwhile, Cathy Hackl, Chief Metaverse Officer and CEO of the Futures Intelligence Group, says the fashion and entertainment industries have been showing interest in the metaverse, with Ariana Grande performing a concert on Fortnite, a popular multiplayer video game, and Nike acquiring RTFKT, a company that designs assets that are only available virtually.

"The metaverse presents itself as a realm of infinite possibilities and opportunities, like unexplored planets in outer space," Hackl says.

Building a Better World

Although AI, which is a key building block for the metaverse, has its suites of benefits, including the advancement of healthcare, pharmaceuticals and education, Jeanne Lim, Co-Founder and CEO of Hong Kong-based beingAI, says humans are becoming "increasingly disconnected from the positive impacts of AI."

She explains that the disconnection is partly due to fear of AI taking over from humanity and taking our jobs, as well as a distrust of the technology, for example deepfake videos.

"However, we do have a choice in how we design technology, and how we engage with technology," says Lim. "If we want machines to understand us, understand our values, so that they can make better decisions for us, we have to engage with them. I believe that positive human-AI interactions can elevate the human experience."

While technology is a key building block for the metaverse, Lim says she believes that the most important building block for the metaverse is human wisdom—after all, it is humans who will be designing the AIs.

"We have to start with human wisdom in order to put the rocks in the right place. Overall, this may be our last chance of building a better world. To me, the metaverse is not something we enter, it is something we build as a human race," she says.

Creating Purpose and Legacy

Understanding that the metaverse and its related technologies can bring enormous benefits—and sometimes harm—to humankind, Ahriyavraromp believes it is vital for Translucia Metaverse to maintain its goal of creating happiness, both externally and from within.

"Translucia is driven by an engine that we envision will create goodness, prosperity, wellness and, ultimately, happiness. Translucia defines goodness as being good to others, to the world, and to yourself. By doing so, we at Translucia are changing the traditional definition of P&L—from profit and loss, to purpose and legacy."

For more information, please visit:
www.events.translucia.org

> "EVERY CRISIS NEEDS A HERO, AND RYAN PETERSEN POSITIONED HIMSELF AS THE FACE OF THIS. HE ENGAGES WHERE A LOT OF EXECUTIVES WON'T. IT'S WHAT THE PUBLIC WANTED TO SEE."

ernment economist, using 1970s-era computers to crunch numbers on Soviet defense spending and running a coding business on the side. Petersen's older brother David stayed up all night building and managing an early online video-game community. Ryan preferred studying abroad in Spain and volunteering in El Salvador.

Graduating trilingual (English, Spanish and Portuguese) with an economics degree from the University of California, Berkeley, in 2002, Petersen initially pursued a global micro-lending career without success. So he went to work for David, buying trinkets from China to resell, such as gag driver's licenses made out to "Elvis Presley." After flipping a container of scooters for a profit on eBay, they moved upmarket to motorsports bikes and parts. Petersen moved to China in 2005 for two years to source the product firsthand. That work helped inspire the brothers' next business, a search engine of global shipping manifests they built with David's college roommate while Ryan was attending Columbia Business School. Bootstrapped and profitable within a couple years, ImportGenius.com still generates millions in cash to this day. But the duo had bigger ambitions. And when David was accepted into Y Combinator in 2013 for a construction industry–focused startup, Ryan grabbed an air mattress and tagged along.

The gate-crashing younger Petersen made a lasting impression on Paul Graham, the accelerator's cofounder, who had an interest in global trade. For years, Petersen had tinkered with another idea, a "TurboTax for customs paperwork," but he needed to clear a rigorous background check (smuggling is one concern) to move goods across the U.S. border. Finally approved in March 2013, he pitched his startup idea, Flexport, onstage to Graham at a 2,000-person event that October. Petersen was accepted into YC's 2014 batch as one of the last founders under Graham's direct mentorship. He quickly stood out.

With a seemingly massive market opportunity and an obvious passion for what seemed a sleepy category, Flexport quickly raised $4 million from a gaggle of name-brand firms. Reddit cofounder Alexis Ohanian, then a YC partner, invested alongside Forbes Midas List star Garry Tan. "It was such a valuable industry and so very undesirable for product builders," Ohanian says. "No 21-year-old in college is lying awake at night saying, 'I need to build the next Flexport.' "

Petersen suddenly needed to deliver Silicon Valley–style hypergrowth. Customs had high margins, but at $99 per transaction wouldn't amount to enough. What customers wanted, Petersen realized, was an online destination that handled customs and their bigger concern: freight forwarding. Incumbents still relied heavily on sending faxes or PDFs back and forth, or "freight *email* forwarding." Within a few months, Flexport had stitched together a working cloud-based version of its software.

By the time Thiel and Founders Fund led a $20 million Series A investment in Petersen in 2015, Flexport was billing itself as a new-look digital freight forwarder. Shipping underwent one of its periodic global crises not long after, when the world's seventh-largest shipping line declared bankruptcy and had ships seized in Chinese ports amid a pricing crash. The turmoil was good for Flexport—it won business simply by reliably showing up. But it was also a warning: Disruption to trade with China could devastate Flexport's core business.

So when Thiel announced his public support for Donald Trump, who was championing big new China tariffs during his presidential campaign, Petersen committed a startup sin. Asked onstage at a June 2016 conference if he would still take Thiel's money knowing he'd support a politician tough on China trade, Petersen spoke from the hip. "Probably not, actually. It depends how desperate we were." Soon he was on the phone with Thiel to explain himself. The damage control worked. A few months later, Thiel stepped up to invest again—at a more generous price.

By that point, it was clear to Petersen that while Flexport was growing fast, the logistics market wasn't one where a hard-charging newcomer could sweep the board. "It's not one of those things where you have a product or you don't," says Founders Fund's Trae Stephens. "It's death by 1,000 cuts."

But as Flexport's revenue doubled past $200 million, then $400 million, and Petersen kept spending to launch offices in ports from Hamburg to Shenzhen, he caught the eye of the world's leading expert on brute-forcing one's way to dominant market share: SoftBank. In January 2019, Petersen sat down to close a deal with Masayoshi Son; 45 minutes later, he walked away with a $1 billion commitment.

With lines of semis now a familiar sight at major hubs, like these at the Port of Oakland, every minute counts. Flexport says its Transmission app shaves 40 minutes from ship to chassis.

PORT OF OAKLAND BY NOAH BERGER/AP

"That year, any team's request for headcount, they got whatever they asked," Petersen says. But three days after the second half of the money was wired, SoftBank-backed WeWork released its ill-fated public offering prospectus. WeWork's larger-than-life cofounder Adam Neumann was out in matter of weeks. Son's $10 billion investment was on life support. For Petersen, the ground shifted fast. Having already spent the first of SoftBank's $500 million, he realized he needed to shift course. The chartered planes stopped. Flexport would try to become a profitable business now.

Much damage had already been done. Flexport's aggressive fundraising—it has secured more than $2 billion to date—meant dilution for Petersen personally, who today owns just 9% of his company despite having no cofounders. And in February 2020, when Covid-19 shutdowns in China started to reverberate through the supply chain, Petersen panicked. He let go of 50 staffers, about 3% of Flexport's workforce. Reporters looking for a wider trend among SoftBank companies pounced. The cuts were also ineffective, crushing employee morale for minimal savings. Petersen calls it his biggest mistake as a CEO so far.

As the pandemic widened, though, Flexport's bruised leader and workforce quickly found purpose. Petersen had launched the project of which he's proudest, the nonprofit arm Flexport.org, back in 2017 to provide discounted freight to nongovernmental organizations and help nonprofits ship donated inventory. Early on, the unit shipped 350,000 masks from the U.S. to Wuhan. When the virus reached Flexport's backyard, it scrounged up tens of thousands more to reroute to local hospitals. Soon a team of 25 staff in China was sourcing PPE for Flexport's relief efforts full-time. Petersen started chartering planes again, this time for a good cause. "I don't think we took a deep breath for three months," he says.

FLEXPORT AND ITS MARKET looked very different this past October when Petersen had dinner with Stripe cofounder and CEO Patrick Collison. Over 2021, Flexport blew away its own projections, turning a surprise profit as revenue doubled. (The company doesn't expect to stay in the black as it invests in growth.) But with the source of that money coming from customers paying through the nose and still facing shipping delays, Petersen wasn't celebrating. Collison was curious how the backup at California's ports compared to mysterious bottlenecks in his world of online payments. Petersen realized he didn't really know. So he flew down to Los Angeles to see for himself.

The day after his chartered boat tour of the Long Beach harbor, Petersen shared his findings on Twitter. He outlined some quick fixes, including stacking containers higher and building a new railhead. Petersen's thread was quickly retweeted more than 15,000 times, including by Coinbase billionaire CEO Brian Armstrong. Long Beach Mayor Robert Garcia sent the list to his staff; the city eased restrictions on stacking containers the next day. Petersen's phone lit up with calls from policymakers like Gavin Newsom. Crews from *Axios on HBO* and *60 Minutes* asked him to guide them on their own harbor tours. For Flexport, it was a marketing masterstroke, though Petersen swears that wasn't his intent.

For most everyone else in the logistics business, it was exasperating. "When Ryan Petersen does his interviews, people in the industry typically get upset because he tends to simplify things a lot. He appears sometimes uninformed," says Robert Khachatryan, who founded the 55-person freight forwarder Freight Right Global Logistics in greater Los Angeles in 2007. Container stacking had limited impact, Khachatryan says. Petersen's bolder proposals, such as the creation of a government-sponsored railhead depot, remain untouched. "There isn't a silver bullet for this."

The notion that Petersen hasn't earned his stripes runs deeper than all the good press he gets. For years, skeptics have argued that Flexport's software does little that you can't find today in competitors' offerings big and small. Walk into the offices of Flexport and Expeditors, a 40-year-old publicly traded freight forwarder with a market cap of about $19 billion, then strip away all the corporate logos and branding, and you'd see that the operations look exactly the same, they claim.

Six years ago, they were mostly right. "That's just the reality of being a new company in such a big, complicated business," says Ben Braverman, a longtime Flexport executive and Petersen confidant.

Customers choose Flexport not because Petersen reinvented the wheel but because its one-stop software suite simplifies their lives. Take San Francisco–based shoemaker Rothy's, a Flexport customer since 2017. Flexport manages the shipping of 25 products from a factory in China to two hubs in California and Kentucky and offsets their carbon footprint. But it's Flexport's visibility tools that allow marketers and store managers to know when to expect new shipments that's really valuable, says Rothy's COO, Heather Skidmore Howard. "I would give both of us an A+ in terms of delivery in a really challenging year," she says.

Flexport is currently testing a new freemium service it will launch this year, one that provides free visibility, carbon tracking and messaging to users even if they don't run freight with Flexport. Petersen also plans to build out a fulfillment product that can identify high-priority goods—say, for direct-to-consumer brands—and ship them faster through a virtual "HOV lane."

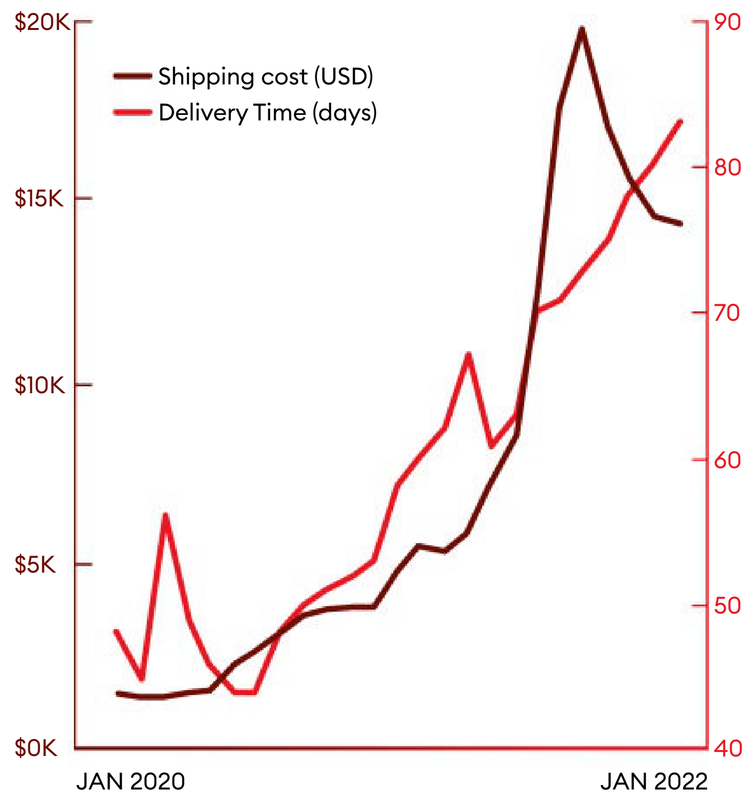
"Flexport is the definitive next-gen winner in the space, full stop," says David George, a growth-stage investor who co-led Flexport's latest round on behalf of Andreessen Horowitz. "They have all these ways to win," he adds. Petersen agrees: "I call our sales process like playing Battleship. You don't sink the battleship with one pin."

Of course, the doubters still doubt. "Visibility is a solution to a problem that shouldn't exist," says Adam Banks, the former chief technology and information officer for Maersk, the world's second-largest ocean carrier, with $40 billion in annual revenue. To hear him tell it, Maersk and its peers own the containers; they'll want to own the data too, not give it up to Petersen. Others question whether it'll be Flexport that will win. One challenger with momentum is Chicago-based project44, a pure logistics data play which raised $420 million in January at a $2.6 billion valuation. Lots of people would rather work with project44's "Switzerland" rather than a brash competitor like Flexport, CEO Jett McCandless argues.

Petersen is used to the sniping by now. "Our industry thinks I'm a clown, which I don't mind," he says. "I need to continue to convince them that I'm crazy so they don't get their act together and compete with us."

SEA SLUGS

Trans-pacific shipping costs, which reached an eye-popping $20,500 for a 40-foot container in September, are finally in decline. Wait times, however, continue to grow.



Source: Freightos

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THE HIGHEST-PAID ENTERTAINERS

There has never been a better time to be a sellout. All of 2021's highest-paid musicians earned their way into the ranks by selling—often for nine figures—all or pieces of their music catalogs. Other top earners sold production studios, cashed in on vintage TV shows or hawked champagne, tequila or sneakers. Less than a third made the bulk of their income from fresh content.

1. Peter Jackson • $580 mil
The *Lord of the Rings* director became a billionaire in November when he sold part of his visual-effects firm, Weta Digital, to Unity Software for $1.6 billion, about 40% of it in cash.

2. Bruce Springsteen • $435 mil
In December, the Boss sold the masters and publishing rights to all his recorded music and song-writing–including 11 multiplatinum albums and five gold singles–for nearly $500 million to Sony Music Group, parent company of his longtime label, Columbia Records.

3. Jay-Z • $340 mil
The hip-hop mogul cashed out stakes in music streamer Tidal and the Armand de Brignac champagne brand.

4. Dwayne "The Rock" Johnson • $270 mil
About 25% of his earnings came from starring roles in films like *Jungle Cruise* and *Red Notice*; most of the rest came from his buzzy tequila brand, Teremana.

5. Kanye West • $235 mil
He earns most of his money from a multiyear deal to design Yeezy sneakers for Adidas. A jacket and hoodie designed for the Gap arrived last year, quickly selling out. But the 52-year-old brand wants more and is reportedly frustrated by the slow rollout.

6. Trey Parker and Matt Stone • $210 mil
Shocking. Hilarious. And cheap to make. Animated TV series *South Park* and its offshoots have netted more than $80 million annually in recent years. In August, the duo signed a six-year, $900 million deal with Paramount+.

7. Paul Simon • $200 mil
Last March Simon sold hundreds of compositions, including "The Sound of Silence," to Sony Music Publishing for some $250 million.

8. Tyler Perry • $165 mil
The billionaire rakes in money from his television shows, a Georgia production studio and the *Madea* movie franchise.

9. Ryan Tedder • $160 mil
In addition to the 500-plus songs he has written for his own band, the OneRepublic frontman has penned hits for Beyoncé, Adele and Ed Sheeran. He sold a chunk of his catalog to KKR in January.

10. Bob Dylan • $130 mil
The 80-year-old Nobel laureate transferred his recorded music and a few future recordings to Sony last July for $150 million. That came after a reported $400 million megadeal in 2020 to sell his publishing catalog to Universal.

11. Red Hot Chili Peppers • $116 mil
London music investment fund Hipgnosis snapped up the California rockers' catalog last May.

12. Reese Witherspoon • $115 mil
She sold a piece of her female-focused production company, Hello Sunshine, at a $900 million valuation.

13. Chuck Lorre • $100 mil
The go-to guy at Warner Bros. TV still makes serious money from such hits as *Two and a Half Men* and *The Big Bang Theory.*

14. Sean "Diddy" Combs • $90 mil
Most of his income last year came from his Cîroc vodka liquor brand.

15. Dick Wolf • $86 mil
Dun-dun! Even after 32 years, Wolf's *Law & Order* franchise continues to hook crime junkies with a combo of new TV shows (*Organized Crime*) and syndicated older ones (*Special Victims Unit*).

16. Howard Stern • $85 mil
Radio's shock-jock "king of all media" moved to satellite 15 years ago. Broadcaster SiriusXM signed him in 2020 for five more years.

17. Kevin Bright, Marta Kauffman, David Crane • $82 mil
Friends forever: The showrunners responsible for the quintessential '90s sitcom continue to cash in, mostly recently with an HBO Max deal.

18. Shonda Rhimes • $81 mil
The *Bridgerton* producer re-upped with Netflix in July and continues to receive hefty residuals from the American network ABC for *Grey's Anatomy*.

19. Neil Young • $80 mil
In January, a year after he sold his music rights to Hipgnosis, he told Spotify to pick between him and podcaster Joe Rogan, who allegedly spread Covid-19 misinformation. The streaming service removed Young's music.

20. Greg Berlanti • $75 mil
The showrunner is known for his bevy of CW network hits like *Riverdale,* but most of his earnings come from a six-year production deal with Netflix for shows including the psychological thriller *You.*

GETTY IMAGES (7); WITHERSPOON: NEWSCOM

50 OVER 50 ASIA 2022

BY **MAGGIE McGRATH**
AND **RANA WEHBE WATSON**

With reporting by Karsha Green, Danielle Keeton-Olsen and Lan Anh Nguyen

THE LIST

We are excited to introduce 50 outstanding women over the age of 50 from across the Asia-Pacific region who are challenging conventions about gender and age. The inaugural 50 Over 50 Asia list is the regional extension of the franchise started last year by *Forbes* in partnership with America's *Morning Joe* cohost Mika Brzezinski and her Know Your Value initiative that highlights women stepping into their power in their sixth decade and beyond.

From business and political leaders to scientists and artists, these honorees are helping us reset the narrative for women across all industries.

Maria Ressa exemplifies this list. The 58-year-old journalist won the Nobel Peace Prize this year, making history as the first Nobel Laureate from the Philippines. In India, 58-year-old Falguni Nayar, founder and CEO of Nykaa, took her company public last year at a $13 billion valuation and became the country's richest self-made woman. Japanese artist Yayoi Kusama is not only actively working at 92, but her innovative mirror rooms have become a viral hit with audiences a quarter her age.

Through these women, we see that age and experience are superpowers. The passion and purpose that drive their success is the same grit that helped them define their own future, rather than being defined by narrow stereotypes. Many have worked hard to juggle career and family, and now see their most productive years ahead. They are proof that there's no rush to have it all, that getting older means getting wiser, and that life *is* better after 50.

RITAM BANERJEE FOR FORBES

Falguni Nayar • AGE: 58

Founder and CEO, Nykaa • *India*

For nearly two decades Nayar worked as an investment banker, leading IPOs and helping other entrepreneurs achieve their dreams. In 2012, she decided to work for herself, investing $2 million of her own savings to launch beauty and retail company Nykaa (derived from a Sanskrit word that means "one in the spotlight"). Nykaa—which was profitable before it went public, a relative rarity for a startup—sells more than 4,000 brands across its beauty, personal care and fashion platform. Its $13 billion listing in November made Nayar India's richest self-made woman.

Maggie Beer • AGE: 76

Founder and food authority, Maggie Beer Holdings • *Australia*

Beer's career spans farming and restaurateur to author and entrepreneur. In 2004, at 59, she took her gourmet food company public; the business now sells food, home goods and wine, with 2021 revenue over $50 million. From 2006 to 2009, Beer hosted *The Cook and The Chef* and became one of Australia's most-loved television personalities. In 2014 she founded a foundation to improve food mindfulness and nutrition for older Australians, especially those living in senior care facilities. In January, she was honored with the national Officer of the Order of Australia, a promotion from a Member of the Order of Australia received in 2012.

Marina Budiman • AGE: 60

Cofounder and president commissioner, DCI Indonesia • *Indonesia*

In 2011, at age 50, Budiman cofounded DCI Indonesia, the nation's largest data center operator with over 50% market share (megawatts). DCI is also Southeast Asia's first Tier IV data center, the industry's highest rating for reliability and resiliency. Budiman's stake in the fast-growing company is worth over $1 billion. DCI saw an 81% jump in revenue and a 57% increase in profit on a compounded basis over the past three years.

Sharan Burrow • AGE: 67

General secretary, International Trade Union Confederation • *Australia*

Burrow, whose great-great grandfather was one of Australia's first union organizers, joined a trade group while working as a high school teacher. In 2004, at age 50, Burrow was elected the first female president of the International Confederation of Free Trade Unions, which two years later was merged into the International Trade Union Confederation (ITUC). In 2010, she was elected the head of ITUC, which today is the world's largest union representing 200 million workers in 163 countries.

Cho Hee-sook • AGE: 62

Chef and owner, Hansikgonggan • *South Korea*

Affectionately called the "godmother of Korean cuisine," Cho started as a hotel chef and has been advancing Korean gastronomy for more than 40 years. In 2019, she opened the Michelin star restaurant Hansikgonggan in Seoul. Last year she was chosen as Seoul's first recipient of the Michelin Mentor Chef Award for her commitment to teach the next generation of Korean chefs.

VISUAL CHINA GROUP

Solina Chau • AGE: 60

Cofounder, Horizon Ventures • *Hong Kong*

Chau has built her career alongside billionaire Li Ka-shing, from chairing his namesake foundation that invests in education and healthcare projects to cofounding Horizon Ventures in 2002. Horizon has invested in some 280 startups, including global tech giants Meta, Spotify and Zoom. Recently the investment firm has pivoted toward ecofriendly innovations such as edible packaging and plant-based chicken nuggets. In a speech last year at the Asian Philanthropy Forum she called on the wealthy to combat inequality.

Samantha Du • AGE: 57

Founder, CEO and chair, Zai Labs • *China*

Du founded Shanghai-based biopharmaceutical firm Zai Labs in 2014 and listed it twice: on the Nasdaq in 2017 and on Hong Kong's stock exchange in 2020. Her $4.6 billion company (market cap) has licensing deals with overseas drugmakers to sell their treatments in the Greater China market. It's also developing its own therapy portfolio, focusing mainly on cancer and autoimmune diseases. Du launched her healthcare-focused investment firm Quan Capital in 2017, through which she led Shanghai-based Alebund Pharmaceuticals' $60 million IPO in March.

Keiko Erikawa • AGE: 73

Executive chairman, Koei Tecmo • *Japan*

A self-made billionaire, Erikawa founded Koei Tecmo with her husband Yoichi and built it into one of Japan's largest video-game developers over four decades. The Tokyo-listed company has reported 11 straight years of record net profit, with earnings of $262 million on sales of $534 million for the fiscal year ended in March 2021. Now in her 70s, she's showing no signs of slowing down. Erikawa became an outside director and the only woman on the board of investment company SoftBank Group in June 2021. She also manages Koei Tecmo's $1.1 billion in assets.

Meena Ganesh • AGE: 58

Cofounder and chair, Portea Medical • *India*

In 2013, at age 50, Ganesh cofounded India's largest home healthcare company, Portea Medical. Today the privately held company, which Ganesh took over as chair in August 2021, is valued at $130 million. Pandemic-led demand for its diagnostic, remote monitoring and teleconsultation services is expected to push up revenue by 30% to 1.8 billion rupees ($24 million) for the year ending March 2022. Ganesh and her husband also invest in Indian startups through their investment platform GrowthStory.

Simryn Gill • AGE: 62

Artist • *Australia*

Born in Singapore, raised in Malaysia, educated in India and the U.K., and living between Sydney and Port Dickson, Malaysia, Gill says her art is inspired by her many homes, and their communities, cultures and landscapes. In 2013, at age 54, Gill represented Australia at the 55th Venice Biennale with her exhibition, "Here Art Grows on Trees." Since then, Gill has had her work exhibited at MoMA in New York and Tate Modern in London.

Debbie Hockley • AGE: 59

President, New Zealand Cricket • *New Zealand*

Hockley played cricket for New Zealand for more than 20 years but her achievements didn't end on the pitch. In 2013, at age 51, Hockley became one of four women in the world to be inducted into the International Cricket Hall of Fame. Three years later she was elected as New Zealand Cricket's first female president. Hockley has since pushed for gender equality within the organization, including leading an eight-person board that is half women.

Ann Hui • AGE: 74

Film director, producer and screenwriter • *Hong Kong*

Hui, who launched her career as a film director in 1979, is well known for her big-screen works that document Hong Kong's people and culture. She was the first woman to receive a lifetime achievement award at the 2011 Asian Film Awards and was awarded Asian Filmmaker of the Year at the 2014 Busan International Film Festival. In 2020, at age 73, she received the honorary Golden Lion for Lifetime Achievement at the Venice International Film Festival.

Guo Pei • AGE: 54

Fashion Designer • *China*

Guo is known for capturing and innovating traditional Chinese fashion designs. She vaulted into the international spotlight after dressing Rihanna for the Met Gala in 2015 and subsequently earning a guest membership in the ultra-exclusive Chambre Syndicale de la Haute Couture. That allowed her to officially present her collections as haute couture in Paris, reportedly the first Chinese designer to be so honored.

TRISTAN FEWINGS/GETTY IMAGES

Miho Imada • AGE: 59

Tôji (sake master brewer) • *Japan*

Imada is one of roughly 20 female tôji in Japan who make up about 2% of the industry. As a third-generation tôji, Imada learned the art of sake from her father and grandfather, and took over the family business, Imada Shuzō, in rural Hiroshima in 2016. It is one of the few breweries owned and led by a female sake master. At age 55, Imada's "Fukucho" ginjo sake won a platinum award at Kura Master 2017, an annual contest selecting the best from over 550 Japanese sake brands.

Thai Huong • AGE: 63

Chair, TH Group • *Vietnam*

Huong is known for her role in modernizing Vietnam's agriculture sector. She gave a boost to the country's dairy industry with TH Group's investment in cow breeding and farming in 2008 using technology from Israel. In the last few years she's invested in milk product manufacturing in Australia and Russia. The $2.7 billion project in Russia is near completion of phase one, with a milk factory expected to open in May 2022.

Jareeporn Jarukornsakul • AGE: 54

Cofounder and chair, WHA Group • *Thailand*

Jareeporn has led logistics and industrial conglomerate WHA Group since she and her late husband founded the company in 2003. A vocal supporter of Thailand's plan to develop its Eastern Economic Corridor, she often gives speeches on ideas for the country's growth. Under her leadership, the WHA Group has embraced investment from China amid the U.S.-China trade war and diversified during the pandemic into healthcare infrastructure.

Adeeba Kamarulzaman • AGE: 57

Dean of Faculty of Medicine, University of Malaya • *Malaysia*

Kamarulzaman, an infectious disease expert specializing in HIV/AIDS, in 2007 established the Centre of Excellence for Research in AIDS at the University of Malaya. In 2020, she was elected the first Asian president of the International AIDS Society, and a year later appointed to the World Health Organization's Science Council, a group that advises on scientific advances that could impact global health. She currently chairs the Malaysian AIDS Foundation and is an adjunct associate professor at Yale University.

Anshula Kant • AGE: 61

Managing director, World Bank • *India*

Kant spent most of her career at the State Bank of India, serving as its managing director, before she was appointed the World Bank's chief financial officer in Washington, D.C. in 2019. Under her leadership, the bank has supported climate action initiatives and investing in longer term capital market funds to help finance Covid-19 responses in developing economies.

Rei Kawakubo • AGE: 79

Founder and fashion designer, Comme des Garçons • *Japan*

Kawakubo's decades-long presence on the Tokyo and Paris fashion scene under her Comme des Garçons brand pushes boundaries in both style and wearability, while Dover Street Market, her second company launched in 2004, extends her avant-garde design to slightly more accessible streetwear. Her affinity for marrying abstract artwork and challenging collections was captured in a Met exhibit in 2017. Comme des Garçons reportedly netted $320 million in revenue before the pandemic.

COURTESY OF TH GROUP

Truong Thi Le Khanh • AGE: 60

Founder and chair, Vinh Hoan Group
• *Vietnam*

She founded and built Vinh Hoan into a publicly listed company that has been Vietnam's biggest catfish producer since 2010. Its seven factories have the capacity to produce 1,000 tonnes of fish daily. Total exports reached $275 million in the first nine months of 2021, an increase of 15% from a year earlier. Vinh Hoan is the only company in Vietnam that produces collagen and gelatin from catfish skin, ingredients used in cosmetics and food products.

Teresa Ko • AGE: 61

China chair, Freshfields Bruckhaus Deringer
• *Hong Kong*

In 2011, at age 51, Ko was named China chairman at one of the oldest and most prestigious international law firms. Ko is also a founding partner of the firm's Asia capital markets practice, where she advised on eight out of 10 of Hong Kong's largest IPOs. Her largest to date was the $20.5 billion listing of pan-Asia insurer AIA Group in 2010. She was also the first woman to chair the Hong Kong Stock Exchange's listing committee.

Yuriko Koike • AGE: 69

Governor, Tokyo • *Japan*

Tokyo's first female governor easily won a second term in 2020, though Koike's approval ratings notably dipped to 64% from 86% four years earlier amid climbing Covid-19 infections and subsequent citywide restrictions. She's been touted as a potential prime minister candidate, but Koike, who launched her own party in 2017, has dismissed suggestions, saying in July she had "no intention" to return to parliament. After a 12-month delay due to the pandemic, Tokyo hosted the Summer Olympics—with mostly empty stands—last year.

Vani Kola • AGE: 57

Founder and managing director, Kalaari Capital • *India*

Kola founded two startups in Silicon Valley, most notably the data-wiping company Certus Software in 2001. But her career surged when she returned to her native India and cofounded venture capital firm Indo-US Venture Partners in 2006, which she rebranded Kalaari Capital in 2012. It's raised more than $740 million to invest in more than 90 startups, generally at the series A stage. Her firm last year announced an initiative to invest $10 million into women-founded or women-led startups.

ROBERTO SCHMIDT/GETTY IMAGES

Supinya "Jay Fai" Junsuta • AGE: 77

Chef and owner, Raan Jay Fai • *Thailand*

Since launching her seven-table food stall in Bangkok in the 1980s, Supinya has cooked six days a week over a hot charcoal flame to make crab omelets, drunken noodles with seafood and a dry tom yum soup for local devotees. In 2018, Jay Fai hit a new level of fame when her stall received a Michelin star in the food guide's inaugural Bangkok edition, and another in 2019. Last year, Jay Fai was awarded 50 Best's "Icon Award," the first ever for a street food hawker.

Lily Kong • AGE: 57

President, Singapore Management University
• *Singapore*

Kong became the first woman and Singaporean academic to helm Singapore Management University in 2019, at age 54, after holding leadership roles at National University of Singapore for more than two decades. Her research background is in social and urban geography. As president of SMU, Kong has aimed to reimagine the core curriculum, support entrepreneurship and innovation and develop more opportunities for female students.

Nualphan Lamsam • AGE: 55

President and CEO, Muang Thai Insurance •
Thailand

In addition to chairing the Port Football Club, Nualphan was appointed as manager of the men's national soccer team in August 2021. She also leads Muang Thai Insurance—ranked second by total premiums in Thailand's estimated $19 billion insurance market. An heiress to the Kasikorn Bank fortune, she has forged her own path as a passionate supporter of Thailand's soccer scene and distributor for luxury handbag designer Hermès. She is a frequently suggested candidate for Bangkok governor.

VISUAL CHINA GROUP/GETTY IMAGES

Yayoi Kusama • AGE: **92**

Artist • *Japan*

Kusama is said to have influenced contemporaries such as Andy Warhol, but in 2017, at age 88, she went viral. Her largest installation, Infinity Mirror Rooms, has been tagged hundreds of thousands of times on social media. In 2017, Tokyo's Yayoi Kusama Museum opened and Kusama has since become one of the world's most successful female artists. She continues to work from a mental health hospital in Tokyo, where she's lived since 1977.

Yasmeen Lari • AGE: **80**

Architect, Heritage Foundation of Pakistan • *Pakistan*

Lari, Pakistan's first female architect, is well known for her work in preserving national landmarks as well as designing state buildings like the Finance and Trade Center and Pakistan State Oil House. Recently Lari has pushed her designs toward climate resilience and emissions reduction or elimination, most famously designing earthquake-resistant homes for low-income communities. She was awarded the Fukuoka Prize in 2016 to honor her work in creating and preserving Asian cultural heritage and the Jane Drew Prize for outstanding women architects in 2020.

Lee In-kyung • AGE: **53**

Partner and CFO, MBK Partners • *South Korea*

Lee is breaking the glass ceiling in South Korea's investment world where only 5% of senior employees at private equity firms are women, according to research firm Preqin. She joined MBK Partners in 2006 shortly after it was founded; the firm has since grown from $1.6 billion to $24 billion in AUM. In January 2020, Lee became the first female partner at MBK, one of the largest North Asian private equity firms. She is also the only woman among its current 13 partners, and acts as the firm's chief financial officer and head of limited partner relations—one of the few partners who have multiple roles at the firm. Prior to joining MBK, Lee worked as CFO at Morgan Stanley Properties in Seoul.

Fiame Naomi Mata'afa • AGE: 64

Prime minister • *Samoa*

In May 2021, Mata'afa unseated the incumbent to become the island nation's first female prime minister and, following a constitutional crisis after the incumbent refused to concede, she assumed the role in July. The granddaughter of a Samoan independence fighter and daughter of the nation's first prime minister, Mata'afa had previously served as deputy prime minister and minister of natural resources and environment, where she advocated for women's voices to be included in climate policy. She received a Conservation International award for protecting oceans.

Dewi Muliaty • AGE: 60

President director, Prodia Widyahusada • *Indonesia*

Recruited by the company's founder in 1988, Muliaty rose from assistant pharmacist to becoming president director in 2009. Prodia is Indonesia's largest private independent clinical lab chain by the size of its network (257 outlets) and revenue, with 39% market share. She oversaw the company going public in 2016 and opened 10 new clinics in 2019, then leaned into at-home testing during the pandemic. Prodia most recently reported a 318% increase in profits on growing demand for medical checkups and health tests.

Wendy Pye • AGE: 78

Founder and CEO, Wendy Pye Group • *New Zealand*

Pye founded her educational publishing group in 1985. It now has over 2,000 titles, and its brand Sunshine Books has sold 300 million copies worldwide. She was the first woman inducted into the New Zealand Business Hall of Fame, and in 2013 she was appointed Dame Companion of the New Zealand Order of Merit for services to business and education.

Renuka Ramnath • AGE: 60

Founder and CEO, Multiples Alternate Asset Management • *India*

Ramnath had made a name for herself in the finance world by building up ICICI Group's e-commerce division and chairing its private equity subsidiary, before starting her own private equity firm, Multiples Alternate Asset Management, in 2009. Now Multiples has more than $1.8 billion under management including investments in finance, health and a power exchange. The firm is aiming to raise $10 billion by 2030, with plans to invest $8 billion of that funding into companies.

Liane Moriarty • AGE: 55

Author • *Australia*

Moriarty has written nine novels, including two No. 1 *New York Times* bestsellers, been translated into 40 languages and sold over 20 million copies worldwide. In 2017, at age 51, Moriarty's novel, *Big Little Lies* was adapted for a HBO television series starring Nicole Kidman and Reese Witherspoon. A year later *Nine Perfect Strangers* was adapted by Hulu for a TV series starring and co-produced by Kidman.

STEVE GRANITZ/WIREIMAGE/GETTY IMAGES

Arundhati Roy • AGE: 60

Author • *India*

Since publishing her breakout novel, *The God of Small Things*, which won the prestigious Booker Prize in 1997, Roy has transformed into an activist for human rights and social issues. Though her comments have provoked controversy, and in one case sedition charges, her reputation is renowned: At 53, she was included in *Time* magazine's list of the world's 100 most influential people and her second novel, *The Ministry of Utmost Happiness*, published in 2017, was shortlisted for national and international awards.

Tokiko Shimizu • AGE: 56

Executive director, Bank of Japan • *Japan*

In 2020, a decade after she became the Bank of Japan's first female branch manager, Shimizu took the helm as one of the bank's executive directors—becoming the first woman to hold that position in the bank's 140-year history. The six executive directors oversee the daily operations of one of the world's most important central banks. Shimizu has a bachelor's degree in engineering from the University of Tokyo and a master's in international policy studies from Stanford University.

Maria Ressa • AGE: 58

Cofounder and CEO, Rappler • *Philippines*

In 2021, Ressa became the 18th female Nobel Peace Prize laureate for her work defending press freedom. A veteran journalist, Ressa worked as a bureau chief and investigative reporter for CNN for two decades before founding Rappler, an independent multimedia news organization in the Philippines, in 2012. Her sharp coverage of Philippine president Rodrigo Duterte's drug war has been met with the Philippine goverment filing 10 arrest warrants for various complaints against her. She was charged with cyber libel for the third time in January 2021 and faces jail time of up to 100 years, but she is insistent in her urge that all journalists use truth to hold power accountable. "The more I was attacked for my journalism, the more resolute I became," Ressa said in her Nobel acceptance speech. "What was meant to intimidate me and Rappler only strengthened us."

JOEL SAGET/GETTY IMAGES

Mallika Srinivasan • AGE: 62

Chair and managing director, Tractors and Farming Equipment • *India*

In her 35 years as chair of Tractors and Farming Equipment, Srinivasan has diversified into engineering plastics and other equipment while also supporting low-income and small-scale farmers with adaptive agriculture practices. Under her leadership, the firm has become the world's third-largest tractor manufacturer by volume. In 2021, she was named the first private sector chair appointed to the Public Sector Enterprise Board that oversees India's state companies.

Nurhayati Subakat • AGE: 71

Founder and CEO, Paragon Technology Innovation • *Indonesia*

Subakat's brand of halal face and hair care, Wardah, has become the dominant locally made line in Indonesia's multi-billion-dollar beauty and personal care market. The pharmacist-entrepreneur started her business in 1985, concocting halal shampoos with her husband, a chemical engineer, in their garage. The company now has more than 10,000 employees.

Ruenvadee Suwanmongkol • AGE: 57

Secretary-general, Securities and Exchange Commission • *Thailand*

Ruenvadee became the first female secretary-general for Thailand's capital market regulator in 2017 at age 53. Under her leadership it has launched an aggressive crackdown on insider trading and fraud by streamlining criminal investigations. She aspires to increase financial literacy and improve inclusivity of women and marginalized groups in the sector.

Soumya Swaminathan • AGE: 62

Chief scientist, World Health Organization • *India*

With more than 30 years of clinical and research experience and over 350 publications under her name, Swaminathan assumed the role of WHO's chief scientist just one year before the onset of the pandemic. She has since made it her mission to keep the public informed, especially Indian nationals hard hit by outbreaks. In particular she has rallied against unequal vaccine distribution—comparing it to inequities in treatment of HIV, her area of expertise.

Adi Utarini • AGE: 56

Public health researcher • *Indonesia*

Utarini specializes in dengue fever, a disease that affects almost 400 million annually and is considered one of the world's 10 greatest threats by the World Health Organization. Utarini breeds mosquitoes that typically transmit the Zika, dengue and chikungunya viruses, but hers are loaded with a virus-resistant bacterium. In 2020, at age 55, Utarini led a controlled study with her mosquitoes in Yogyakarta, which resulted in a drop in dengue cases in the Indonesian city.

Tessy Thomas • AGE: 58

Director general of Aeronautical Systems, Defense Research & Development Organisation • *India*

Thomas turned a childhood passion for rockets into a career. She joined DRDO in 1988 when she worked on the design and development of the ballistic missile Agni. Over the next 30 years, Thomas developed several state-of-the-art systems using new technologies, and was the first woman in India to lead a missile project. In 2018, at age 55, Thomas was appointed director general of aeronautical systems at the DRDO.

Maria Grace Y. Uy • AGE: 53

Cofounder and president, Converge ICT Solutions • *Philippines*

In 2007, Uy cofounded Converge ICT, one of the largest fixed broadband operators in the Philippines. In 2019, at age 50, Uy led negotiations for a $250 million investment from Warburg Pincus that helped expand the company's fiber network to cover 25% of Filipino households. Converge went public in late 2020 in one of the country's largest-ever IPOs, raising $522 million. Shares have since risen 52%, pushing Converge's market cap to 204 billion pesos ($4 billion).

Nicke Widyawati • AGE: 54

CEO and president director, Pertamina • *Indonesia*

Widyawati leads the Indonesian state-owned oil and gas company Pertamina. Appointed in 2018, at age 50, Widyawati is the second female president director of the company, which is one of the country's biggest, with over $40 billion in revenues and more than 10,000 employees. Widyawati has focused efforts on building renewable energy sources.

Michelle Yeoh • AGE: **59**

Actor and producer • *Malaysia*

A former ballet dancer and one-time Miss Malaysia, Yeoh found fame as an actress performing her own stunts in Hong Kong action movies in the 90s. Her roles in the James Bond film *Tomorrow Never Dies* and the martial arts blockbuster *Crouching Tiger, Hidden Dragon* launched Yeoh onto the international stage. Her over-50 career has been even more action packed: After starring in the global hit *Crazy Rich Asians* in 2018, Yeoh was cast as an original Marvel character in 2021's *Shang-Chi and The Legend of the Ten Rings*. Yeoh is set to co-produce a TV series based on Malaysia's 1MDB scandal.

Shemara Wikramanayake

• AGE: **60**

CEO and managing director, Macquarie Group • *Australia*

In 2018, at age 57 and after 31 years at the Macquarie Group, one of the world's largest financial services firms, Wikramanayake was appointed CEO. She is one of the business world's most vocal supporters of climate change initiatives and a low-carbon economy. Since she took charge, Macquarie shares are up 56%, with record profits in the fiscal year ending March 2021 up 10%. Wikramanayake was named Australia's highest paid CEO in 2021, with an estimated A$16 million ($11 million) pay package.

Helen Wong • AGE: **60**

Group CEO, OCBC • *Singapore*

Wong leapt from chief executive of HSBC Greater China in 2019 to leading OCBC in 2021 at age 59, becoming Singapore's first female bank chief executive—and marking a return to where she began her career. Wong took the helm of OCBC with a goal of doubling the bank's relationship managers to 500 by 2023 to support wealthy Chinese clients, and she has said the bank is considering building a cryptocurrency exchange.

Kathy Xu • AGE: **54**

Founding Partner, Capital Today • *China*

Xu hit the jackpot when her VC firm Capital Today earned $2.6 billion from its $18 million bet on JD.com following the e-commerce site's IPO. As one of the first venture capitalists in China, she focused on upcoming consumer trends, demonstrated by her investment in Wahaha, predicting the future popularity of bottled drinks that were initially unappealing in mainland China. She has since invested in other successful ventures such as Ctrip, Tudou and Yonghui Life.

Youn Yuh-jung • AGE: **74**

Actor • *South Korea*

A veteran Korean actor, Youn made her Hollywood debut at age 73 in 2020 in *Minari*, a film about a Korean-American family searching for their American Dream in the Arkansas Ozarks. Youn went on to become the first Korean actor to win an Oscar for Best Supporting Actress last year. Youn was also awarded a Screen Actors Guild Award and a BAFTA Award for her role, and received the Golden Crown Order of Cultural Merit in South Korea.

FRAZER HARRISON/GETTY IMAGES

THE BLOCKCHAIN 50

CRYPTOCURRENCIES HOG THE SPOTLIGHT, BUT BLOCKCHAIN'S BIGGEST INNOVATIONS ARE BELOW THE SURFACE, SAVING BILLIONS EACH YEAR FOR THE WORLD'S LARGEST COMPANIES.

You've come a long way, blockchain! Since our inaugural roundup of the Blockchain 50, published in 2019, the billion-dollar companies (minimum, by sales or market value) on our annual list have moved beyond test projects and now rely on "distributed ledger" technology to do serious work. A lot of the action is in the back office, verifying insurance claims or facilitating real estate deals. It has also become vital to supply chains, whether checking the provenance of conflict minerals like cobalt or tracking auto parts for Renault. Nearly half of the Blockchain 50 are based outside the United States; 14% are Chinese. New this year: venture capital firms, which as a group invested more than $32 billion in the sector in 2021.

Cryptocurrencies like bitcoin and ether grab all the headlines, especially after booming last year and then losing more than $1 trillion in value since November. But in many ways, speculative cryptocurrencies are the least intriguing blockchain application. The most lasting impact will come as more and more multinationals integrate blockchains into their daily operations, unleashing untold efficiencies.

• • •

EDITED *by* MICHAEL DEL CASTILLO *and* MATT SCHIFRIN

Reported by Maria Abreu, Nina Bambysheva, Justin Birnbaum, Lauren Debter, Michael del Castillo, Steven Ehrlich, Chris Helman, Katie Jennings, Jeff Kauflin, Javier Paz, Jon Ponciano and Marie Schulte-Bockum

Adobe

SAN JOSE, CALIFORNIA

BLOCKCHAIN PLATFORM: Ethereum

KEY LEADER: Will Allen, VP at Adobe overseeing its Content Authenticity Initiative

Allianz

MUNICH, GERMANY

BLOCKCHAIN PLATFORMS: Hyperledger Fabric, Corda

KEY LEADER: Bob Crozier, chief architect of Allianz Technology and global head of blockchain for Allianz Group

Andreessen Horowitz

MENLO PARK, CALIFORNIA

BLOCKCHAIN PLATFORMS: Bitcoin, Ethereum, Solana, Flow, Celo, Near, Arweave and others

KEY LEADER: Chris Dixon, general partner and leader of a16z Crypto

The list continues to next page

Ant Group

HANGZHOU, CHINA

Since July 2020, this Alibaba affiliate has devoted 10,000 developers to blockchain. Already they've created 30 applications, generating over 100 million blockchain-tracked documents including patents, vouchers and warehouse receipts. The most mature AntChain application is Trusple (Trust Made Simple), which connects international buyers of products and components—beads in the apparel industry, say—to 6 million Chinese sellers. The app simplifies tax, customs and shipping, and enables banks to instantly complete payment, reducing auditing costs and default risk. Nearly 20 global banks including CitiBank, BNP Paribas, Singapore's DBS and Japan's Mizuho are providing financing via the platform.

BLOCKCHAIN PLATFORM: AntChain

KEY LEADER: Geoff Jiang, president of Intelligent Technology Business Group, Ant Group

Anthem

INDIANAPOLIS, INDIANA

BLOCKCHAIN PLATFORM: Hyperledger Fabric

KEY LEADER: Rajeev Ronanki, Anthem's president of digital platforms

Aon

DUBLIN, IRELAND

BLOCKCHAIN PLATFORM: Corda

KEY LEADERS: Christa Davies, CFO

A.P. Moller—Maersk

COPENHAGEN, DENMARK

BLOCKCHAIN PLATFORMS: TradeLens, Hyperledger Fabric

KEY LEADER: Christian Hammer, chief technology officer, TradeLens

Baidu

BEIJING

China's fourth-largest tech firm has 20,000 developers building (mostly) financial applications on its open-source blockchain. Last year they generated $47 million in revenue, a drop in the bucket for the $15.5 billion (sales) firm, but the future looks bright. In September Baidu won its largest contract to date, a $25 million deal with the government of Tongxiang, a city southwest of Shanghai, to build software to track the supply chain for the roughly $5 billion worth of synthetic fibers used to make clothes in the textile center. Efficiencies from moving its workflow to a shared ledger have already cut lending costs by 50 basis points. Baidu estimates that the blockchain has helped reduce the supply chain's energy consumption by 17% and could remove 15,000 tons of carbon dioxide from the environment each year.

BLOCKCHAIN PLATFORM: XuperChain

KEY LEADER: Xiao Wei, chief manager of Baidu Blockchain

BHP

MELBOURNE, AUSTRALIA

In 2020, BHP, the $61 billion (sales) Anglo-Australian multinational mining outfit, sold its first "paperless" shipment of Australian iron ore to China. That evolved in 2021 to trading cargoes of copper concentrate to China, with all documents, assays and emissions data enshrined on its MineHub blockchain platform. BHP has since adopted blockchain-based traceability to ensure there's no "dilution" of the nickel it sells to Tesla's Shanghai battery factory and to track the carbon emissions of the copper it sends from Chile to electric cable maker Southwire in Carrollton, Georgia. BHP is now in talks with suppliers to use blockchain to guarantee that the rubber in the 6,000 giant truck tires it uses each year was produced without slave labor or illegal deforestation.

BLOCKCHAIN PLATFORMS: MineHub, Hyperledger Fabric

KEY LEADER: Michiel Hovers, group sales and marketing officer

Block

SAN FRANCISCO

BLOCKCHAIN PLATFORM: Bitcoin

KEY LEADER: Jack Dorsey, CEO

"The reason I have so much passion for bitcoin is largely because of the model it demonstrates: a foundational internet technology that is not controlled or influenced by any single individual or entity. This is what the internet wants to be, and over time, more of it will be."

—Jack Dorsey

BNY Mellon

NEW YORK

BLOCKCHAIN PLATFORMS: Bitcoin, Ethereum

KEY LEADERS: Roman Regelman, CEO of asset servicing and head of digital; Mike Demissie, head of digital assets; Ben Slavin, global head of ETFs

Boeing

CHICAGO

BLOCKCHAIN PLATFORMS: Go Direct, Hyperledger Fabric, Hyperledger Indy

KEY LEADER: Charles S. Sullivan, president, Boeing Canada Operations

Breitling

GRENCHEN, SWITZERLAND

BLOCKCHAIN PLATFORM: Ethereum

KEY LEADER: Antonio Carriero, chief digital and technology officer

China Construction Bank

BEIJING

The world's second-largest bank, with $4.7 trillion in assets, has so far processed $141 billion worth of transactions on private blockchains for everything from supply-chain financing to cross-border payments. Among its more recent products is EasyPay, designed to make it simpler for corporations to send large, paperwork-intensive transactions with fewer errors and less need for audits. If a company in Guangxi wants to buy palm oil from Malaysia, the counterparties can load their trade contract, receipts and waybills into the shared ledger. Local CCB branches can then process both halves of the trade in parallel, instead of sequentially. The result: Total settlement time is reduced from two days to about ten minutes. The platform now connects 14,000 bank locations.

BLOCKCHAIN PLATFORMS: Tianshu BaaS, CCB Chain, BC Trade 2.0

KEY LEADER: Lei Xing, senior manager at CCB Financial Technology Company

CME Group

CHICAGO

BLOCKCHAIN PLATFORMS: Bitcoin, Ethereum

KEY LEADER: Tim McCourt, global head of equity index and alternative investments

ILLUSTRATIONS BY LOUISE POMEROY

Coinbase

SAN FRANCISCO

BLOCKCHAIN PLATFORMS: Bitcoin, Ethereum and dozens of others

KEY LEADER: Brian Armstrong, CEO

De Beers

LONDON

BLOCKCHAIN PLATFORMS: Tracr, Ethereum

KEY LEADER: Jason McIntosh, chief product officer, Tracr

Depository Trust & Clearing Corporation

JERSEY CITY, NEW JERSEY

BLOCKCHAIN PLATFORMS: ION, DSM, Hyperledger Fabric

KEY LEADER: Rob Palatnick, managing director and global head of tech research

Digital Currency Group

STAMFORD, CONNECTICUT

BLOCKCHAIN PLATFORMS: Bitcoin, Ethereum, Litecoin and others

KEY LEADER: Barry Silbert, CEO

Fidelity

BOSTON

BLOCKCHAIN PLATFORM: Bitcoin

KEY LEADER: Tom Jessop, head of Fidelity Digital Assets

FTX

NASSAU, THE BAHAMAS

BLOCKCHAIN PLATFORMS: Bitcoin, Ethereum, Solana and dozens more

KEY LEADER: Sam Bankman-Fried, CEO

"FTX was founded out of frustration with existing crypto platforms. We saw a large number of exchanges that just white-labeled generic tech, didn't think too hard about it, didn't hire compliance and then just spent a bunch of money marketing."

—Sam Bankman-Fried

Fujitsu

TOKYO

The $32 billion (12-month sales) tech company runs a blockchain innovation lab in Brussels with more than 40 clients—from a rice-trading startup to giant brewer Anheuser-Busch. The companies use the lab to test fresh ideas, backed by Fujitsu's technical expertise. In November, for example, water purification firm Botanical Water Technologies started building a trading platform using Fujitsu's in-house distributed ledger technology, which will allow sugar mills, distilleries and cola makers to sell or reuse the water they would normally discard during production. The platform, launching in April, will trace the water as it's purified, sold and delivered, and give companies the option to donate a portion of their purified water to water-scarce communities.

BLOCKCHAIN PLATFORMS: Hyperledger Fabric, Besu and Cactus, plus Ethereum

KEY LEADERS: Frederik De Breuck, head of Enterprise Blockchain Solution Center; Shingo Fujimoto, manager of data and security laboratory, Fujitsu Research

Industrial and Commercial Bank of China

BEIJING

The largest bank on the planet ($5.6 trillion in assets) has 40 blockchain applications, which last year handled more than $48 billion worth of transactions for local governments and industries including construction and transportation. Among its most innovative apps is Icago, which rewards users for making use of energy-efficient vehicles, whether trains, buses or electric cars. The bank's blockchain connects wallets owned by ICBC customers to government transportation data. Carbon credits issued by the transit commission as non-fungible tokens can be redeemed for China's new central-bank digital currency. In the future, securitized carbon emissions will be sold as bonds to companies looking to meet carbon reduction requirements. In Qingdao, a city known for its beer, the program removed 99,000kg of carbon in 2021. This year, the program will expand to Shenzhen, Shanghai, Chengdu and seven other cities.

BLOCKCHAIN PLATFORM: Emperor Seal Chain

KEY LEADER: Chaowei Liu, principal manager

JPMorgan Chase

NEW YORK

BLOCKCHAIN PLATFORMS: ConsenSys Quorum

KEY LEADER: Umar Farooq, CEO of Onyx by JPMorgan

Kakao Corporation

JEJU-SI, SOUTH KOREA

South Korea's dominant mobile messenger application, KakaoTalk, is used by nearly 90% of the country's 52 million people, and as of May 2021 it has a marketplace for trading NFTs. Called KrafterSpace, the exchange is fully integrated with OpenSea, the San Francisco–based NFT bazaar that recently raised money at a $13.3 billion valuation. On KrafterSpace users can purchase tokenized artwork directly through Kakao's messenger app with the accompanying digital wallet, called Klip Drops. Both KrafterSpace and Klip Drops are built on Kakao's own blockchain, Klaytn, which has more than 800,000 active users. Separately, in August, Kakao launched a $515 million Klaytn Growth Fund to support developers willing to contribute to its blockchain's ecosystem.

BLOCKCHAIN PLATFORM: Klaytn

KEY LEADER: David Shin, head of Klaytn Global Adoption

"We have built tremendous momentum over the past three months and are well positioned to ride the metaverse wave in 2022. Strategic partnerships in Japan, Indonesia, Thailand, the U.S. and Singapore are core components of our international expansion."

—David Shin

LINE Corporation

TOKYO

Part of Z Holdings, the $36 billion (market cap) Japanese internet company that also owns Yahoo Japan and Japan's PayPal competitor, LINE is the country's largest messaging app, with 300 million users. The company has developed a proprietary blockchain, also called LINE, owned by SoftBank Group and South Korean internet conglomerate Naver. Its services include a cryptocurrency exchange, an NFT marketplace and a digital wallet with more than 254,000 registered accounts. The associated cryptocurrency Link is a big hit, attracting nearly a million users. As of late January it had a market cap of $669 million.

BLOCKCHAIN PLATFORM: LINE Blockchain

KEY LEADERS: Woosuk Kim, CEO of Unblock and LINE Tech Plus; Keun Koo, head of blockchain development at Unchain

Marathon Digital Holdings

LAS VEGAS

BLOCKCHAIN PLATFORM: Bitcoin

KEY LEADER: Fred Thiel, CEO

Mastercard

PURCHASE, NEW YORK

BLOCKCHAIN PLATFORMS: Terra, Rootstock, Monero, Bitcoin Cash, Litecoin, Bitcoin, Ethereum, Avalanche

KEY LEADERS: Raj Dhamodharan, executive vice president of digital assets and blockchain products and partnerships

Meta

MENLO PARK, CALIFORNIA

BLOCKCHAIN PLATFORM: Unknown

KEY LEADER: Mark Zuckerberg, CEO

MicroStrategy

TYSONS, VIRGINIA

BLOCKCHAIN PLATFORM: Bitcoin

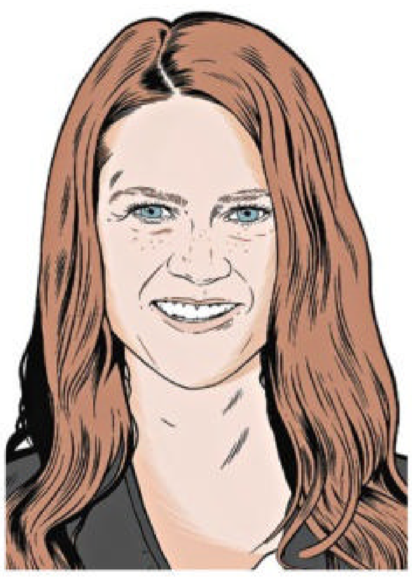
KEY LEADER: Michael Saylor, CEO

National Basketball Association

NEW YORK

BLOCKCHAIN PLATFORM: Flow

KEY LEADER: Adrienne O'Keeffe, vice president of global partnerships and media



"NFTs are giving leagues, teams and sports properties new ways to engage with their fans. People can really feel ownership of their fandom. I think that's revolutionary not only to the sports world, but to business in general."

—Adrienne O'Keeffe

NCR

ATLANTA

BLOCKCHAIN PLATFORM: Bitcoin

KEY LEADER: Tim Vanderham, CTO

Nornickel

MOSCOW

BLOCKCHAIN PLATFORM: Hyperledger Fabric

KEY LEADERS: Marco Grossi, CEO, Atomyze AG; Alexander Stoyanov, CEO, Global Palladium Fund

Oracle

AUSTIN, TEXAS

BLOCKCHAIN PLATFORMS: Hyperledger Fabric

KEY LEADER: Wei Hu, senior vice president, high availability technologies

Paradigm

SAN FRANCISCO

BLOCKCHAIN PLATFORMS: Bitcoin, Ethereum and others

KEY LEADERS: Fred Ehrsam and Matt Huang, cofounders

PayPal

SAN JOSE, CALIFORNIA

BLOCKCHAIN PLATFORMS: Bitcoin, Ethereum, Bitcoin Cash, Litecoin

KEY LEADERS: Dan Schulman, president and CEO; Jose Fernandez da Ponte, SVP and general manager for blockchain, crypto and digital currencies

"This is just the beginning. We're thinking about a full road map around different use cases for cryptocurrencies as well as what the underlying technologies might look like to manage and move money with central banks and other regulators."

—Dan Schulman

Ping An

SHENZHEN, CHINA

Through its subsidiary OneConnect's blockchain financing platform, the sixth-largest company in the world has made more than $12 billion in loans to a million small and midsized businesses in China's Guangdong province since January 2020. OneConnect's software uses government data to analyze a borrower's risk profile for banks, cutting transaction processing to as little as 10 minutes—a massive money saver for its 788 client financial institutions, including $5.6 trillion powerhouse ICBC. In November, a OneConnect subsidiary partnered with the People's Bank of China to use blockchain to track and process the financing of imports and exports from mainland China and Hong Kong.

BLOCKCHAIN PLATFORM: FiMAX

KEY LEADER: Li An, associate director of product

ILLUSTRATIONS BY LOUISE POMEROY

Providence

RENTON, WASHINGTON

BLOCKCHAIN PLATFORM: Corda

KEY LEADERS: Kimberly Sullivan, chief revenue cycle officer, Providence; Mike Nash, CEO, Lumedic (acquired)

Renault

BOULOGNE-BILLANCOURT, FRANCE

BLOCKCHAIN PLATFORM: Hyperledger Fabric

KEY LEADER: Odile Panciatici, blockchain VP

"We have a huge volume of data. We produce one car per minute, and each car represents thousands of characteristics and hundreds of parts. Xceed is tracking compliance of parts. It involves engineering, manufacturing and logistics. It's a real digital transformation."

—*Odile Panciatici*

Samsung Group

SUWON, SOUTH KOREA

Many know Samsung for TVs and other electronics, but those are just one aspect of the largest ($220 billion 12-month sales) chaebol in South Korea. It also makes ships, runs theme parks, sells life insurance—and, since 2020, has been using a blockchain-based loan platform to make it easier for small and midsize enterprises to request government loans. Previously, such a request required documents from three parties—the government, the credit guarantor and the bank—which would take three weeks on average to process. The platform reduces paperwork, cutting processing time to 12 days and saving about 13,000 working hours a year.

BLOCKCHAIN PLATFORM: Nexledger

KEY LEADER: Jihwan Rhie, head of Blockchain Business Planning

Signature Bank

NEW YORK

BLOCKCHAIN PLATFORMS: Signet, Ethereum

KEY LEADER: Frank Santora, chief payments officer

Société Générale

PARIS

BLOCKCHAIN PLATFORM: MakerDAO

KEY LEADER: Jonathan Benichou, chief financial officer, SG Forge

Sotheby's

NEW YORK

BLOCKCHAIN PLATFORM: Bitcoin, Ethereum

KEY LEADERS: Stefan Pepe, CTO, Sotheby's; Sebastian Fahey, managing director, EMEA, and executive lead for Sotheby's Metaverse

Stone Ridge Holdings Group

NEW YORK

BLOCKCHAIN PLATFORMS: Bitcoin, Ethereum, XRP, Litecoin, Bitcoin Cash

KEY LEADERS: Ross Stevens, executive chairman; Robby Gutmann, CEO

Tech Mahindra

PUNE, INDIA

The technology arm of India's Mahindra Group (2021 revenue: $5.1 billion) has developed more than 60 blockchain-based products spanning energy, manufacturing, media, retail and telecom. One of the most interesting: VaccineLedger, which was developed with a startup funded by Unicef and Gavi, the vaccine alliance that oversees a worldwide Covid-19 vaccine database with the World Health Organization. The blockchain helps prevent counterfeiting and reduces wasted vaccines by tracing the shots from manufacturer to recipient. It records data related to custody, temperature, location and purchase orders for each vial. VaccineLedger already operates in two states in India, with plans to expand worldwide.

BLOCKCHAIN PLATFORM: Hyperledger Fabric

KEY LEADER: Rajesh Dhuddu, global practice leader of blockchain and cybersecurity

Tencent

SHENZHEN, CHINA

Over the past decade, Tencent has built a superapp, used by more than 1 billion for everything from gaming, messaging, shopping and social media. Now it's developing a one-stop blockchain platform, Tencent Cloud Blockchain. Ten provinces and cities in China including Beijing, Guangdong and Hainan, already use it to issue electronic bills for things like healthcare and transportation. As of August 2021, Tencent's blockchain had processed more than 15 million transactions in one city alone.

BLOCKCHAIN PLATFORMS: ChainMaker, Hyperledger Fabric, Fisco Bcos

KEY LEADER: Powell Li, general manager of Tencent Cloud

Twitter

SAN FRANCISCO

BLOCKCHAIN PLATFORMS: Bitcoin, Ethereum

KEY LEADER: Parag Agrawal, CEO

Visa

SAN FRANCISCO

BLOCKCHAIN PLATFORMS: Bitcoin, Ethereum

KEY LEADER: Terry Angelos, SVP and global head of fintech

Walmart

BENTONVILLE, ARKANSAS

BLOCKCHAIN PLATFORMS: Hyperledger Fabric, Walmart Blockchain

KEY LEADERS: Archana Sristy, senior director, blockchain, Walmart Global Tech; Tejas Bhatt, senior director, global food safety innovation

WeBank

SHENZHEN, CHINA

One of WeBank's latest blockchain apps encourages sustainable living by rewarding users for doing things like walking, taking the bus or recycling clothing. The Chinese digital bank, which is 30% owned by Tencent, issues Green Bud Points via a mini-app on WeChat that can later be exchanged for gifts and vouchers. All records are stored on its blockchain to ensure transparency and traceability. The platform already has 1 million daily active users and reports that it recorded a reduction of more than 2,500 tons of carbon emissions over 2021. Overall, WeBank claims more than 70,000 coders working on its proprietary Fisco Bcos blockchain.

BLOCKCHAIN PLATFORM: Fisco Bcos

KEY LEADER: Henry Ma, executive vice president and chief information officer

Tribute Labs CEO Aaron Wright and COO Priyanka Desai at a Williamsburg, Brooklyn, mural of a popular NFT. Fittingly, their DAO service operation has no physical offices, with the execs working virtually from their New York apartments.

DAOs Aren't a Fad — They're a Platform

THE LEADERLESS INVESTING COLLECTIVES KNOWN AS **DECENTRALIZED AUTONOMOUS ORGANIZATIONS** ARE GENERATING A LOT OF EYEROLLS. THANKS TO HIGH FLEXIBILITY AND LOW REGULATION, THEY'LL ALSO SOON GENERATE A LOT OF PROFITS.

By **Jeff Kauflin** with **Isabel Contreras**

Photograph by **Jamel Toppin** for Forbes

“This is an incredibly risky move. I don’t know if I agree with this.”

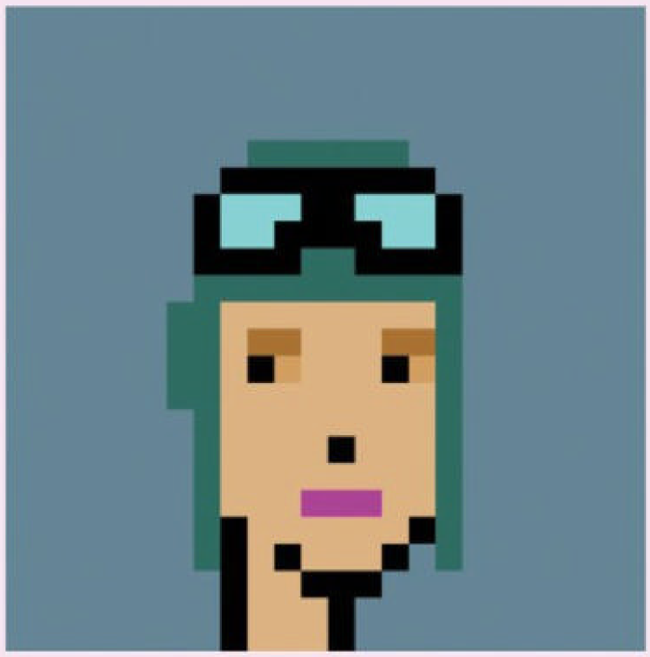
Erick Calderon, the founder of a company named Art Blocks in a risk-oblivious field, nonfungible tokens, was nonetheless concerned. It was February 2021, and Calderon was one of 59 investors who had banded together to potentially buy a rare set of 150 popular NFTs, CryptoPunks, directly from their producer, Larva Labs.

The group, a decentralized autonomous organization (DAO) called Flamingo, had pooled $10 million and met weekly via Zoom (audio-only to protect those wanting anonymity) to figure out what to do with it. The CryptoPunk opportunity, at about four ether ($7,200 at the time) per punk, would eat 10% of that, which is partly why Calderon aired his concerns on the group’s Discord channel.

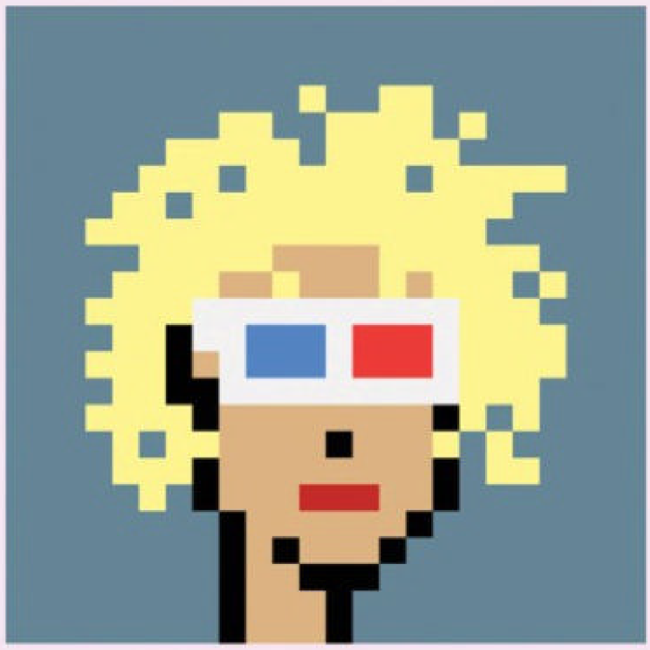
The tension got thicker when members discovered one of their own—someone going by the pseudonym “Pranksy”—had tried to front-run the deal, opening a back channel with Larva Labs to buy 150 punks for himself. In the end, Flamingo members voted to spring for the punks, which were recently valued at $30 million. As for Pranksy, he left the DAO “by mutual agreement,” telling *Forbes* he was “somewhat naive [about] the DAO process.”

Most of America is. Sure, you’re probably familiar with the concept: leaderless collectives in which groups democratically make investment decisions, such as when 17,000 members of a DAO tried to buy one of 13 surviving original copies of the U.S. Constitution last year. Aaron Wright, CEO and cofounder of Tribute Labs, which set up Flamingo, calls a DAO “a subreddit with a bank account.” But while the headlines tend toward the splashy or the silly, a new model is emerging that has real legs as an alternative investment vehicle.

A quarter-century ago, an Illinois “investment club” run out of a church basement, the Beardstown Ladies, spawned a slew



CryptoPunk #1609
CryptoPunks



CryptoPunk #1637
CryptoPunks

CryptoPunk #1955
CryptoPunks

of bestsellers and imitators as stock-picking groups proliferated. DAOs have modernized and digitized the concept, incorporating many of the traits that make the blockchain so potent.

By using tokens, DAOs can efficiently allow votes, empower profit sharing and, crucially, supply liquidity, as tokens can be bought and sold—though for now, trading in tokens is not something the Securities and Exchange Commission is ready to bless.

By limiting membership to 100 people or fewer, some DAOs are also able to skirt SEC rules, since they fall under a quaint 82-year-old "investment club" exemption—so long as the participants are all involved in managing their kitty and don't publicly offer their securities.

And while the leaderless model can be called, by another definition, anarchy, it also lets those interested in alternative assets play without having to outrun the 20% profit share that hedge fund, venture capital and private equity managers regularly charge for what too often is average performance. Syndicate, which makes DAO-in-a-box software, partners with another startup that can help you do all the legal and tax paperwork for $2,000 a year, while Tribute charges 2% a year of the DAO's original investment to do all that paperwork and incorporate things like coordinating group calls (not coincidentally, the same upfront vig that funds charge). The difference here is that the profits are all yours.

Combine all that, and you have something that can't be judged by all the dumb headlines. Instead, think of DAOs as a legal platform, much as nimble LLCs emerged decades ago as an easier way to incorporate than the lawyer-laden C Corp. The early adopters might seem silly. The second wave will make it mainstream.

Exhibit A: Kinjal Shah is a partner at VC firm Blockchain Capital, in San Francisco, which has a traditional fee structure on $1.8 billion under management. Nevertheless, Shah cofounded a DAO called the Komorebi Collective, which has 35 female investors, $400,000 in capital and a goal of investing in crypto startups with female and nonbinary founders. In creating an investment vehicle (leveraging Syndicate services) that isn't weighed down by institutional investors or high hurdle fees, Shah says the DAO can "have a lot more experimentation and flexibility." And those are two terms that tend to portend exponential growth.

A QUARTER-CENTURY AGO, AN ILLINOIS "INVESTMENT CLUB" RUN OUT OF A CHURCH BASEMENT, THE BEARDSTOWN LADIES, SPAWNED A SLEW OF BESTSELLERS AND IMITATORS AS STOCK-PICKING GROUPS PROLIFERATED. **DAOS HAVE MODERNIZED AND DIGITIZED THE CONCEPT**, INCORPORATING MANY OF THE TRAITS THAT MAKE THE BLOCKCHAIN SO POTENT.

The early days of DAOs did the model no favors. In 2016, early adopters of ethereum formed "The DAO" to back crypto projects, quickly attracted $150 million—and then lost one-third of that to a hacker before making a single investment. While the attacker was denied most of his spoils after developers controversially "forked" (reissued) ethereum, the point had been made: The DAO disbanded, and all DAOs carried a stink akin to that of early dark web marketplace Silk Road.

Nevertheless, the concept gradually spread. By 2018, roughly 10 DAOs had been formed. By 2020, there were nearly 200 of various types, according to DeepDAO. Yes, embarrassing incidents continued, including numerous "rug pulls"—scammers collect money for a DAO crypto offering and then abscond with the loot, a digital version of *The Music Man*. Just this January, BadgerDAO, a 24,000-member organization that lets people earn interest on their bitcoin, lost $120 million in a cyberattack.

But the sheriffs are flooding into this Wild West. Today, more than 50 companies offer blockchain security auditing, according to Open-Zeppelin. And the number of DAOs keeps surging—it currently sits at more than 4,000, with over $8 billion in their treasuries.

Yes, the populist teams and populist themes attract the headlines. PleasrDAO, which has about $100 million in assets and a mission, according to its "chief pleasing officer," Jamis Johnson, that varies between doing "dope shit" and building "a portfolio of assets that represent internet culture," shelled out $4 million for the Wu-Tang Clan's one-of-a-kind album *Once Upon a Time in Shaolin* (buying it from the feds, who seized it from Martin Shkreli, the jailed "Pharma Bro"). It also spent $5.5 million for the "Stay Free" NFT minted by fugitive National Security Agency whistleblower Edward Snowden and $4 million for an NFT of the original "Doge" image—the mascot of the cryptocurrency Elon Musk promotes in tweets. But look closer, and you'll see that this isn't the "stonks" crowd—investors include the platinum-chip venture firm Andreessen Horowitz (firms, as well as individuals, can invest).

While fans may have fantasized through the decades about banding together to buy their hometown sports teams, the Krause House DAO provides a legitimate group with a far more serious path to that unlikely goal, incorporating former players and superfans in a campaign to buy a professional basketball team.

A lot of this increasing legitimacy can be credited to Wright, the 41-year-old Tribute Labs cofounder and law professor, who has been obsessing over DAOs since the start. After graduating from Cardozo Law School in 2005, he vacillated between entrepreneurship, cofounding sports discussion site Armchair GM, which was sold to Wikipedia's for-profit arm for $2 million in 2006, and New York corporate law, even representing Jay-Z in an intellectual property dispute.

From his base near Vancouver, Jess Sloss, "instigator" of Seed Club, organizes boot camps for aspiring DAO creators. As payment, they turn over 3% of their tokens to Seed Club.

In 2014, seeking more intellectual freedom and better hours, Wright began teaching law at his alma mater and combined his two careers, founding a legal clinic for tech startups and expounding on crypto and blockchain. In 2015, he advised the cofounders of ethereum on their first "crowd sale"—they sold ether for 30 cents that now trades around $2,500—and later offered his thoughts on The DAO. Wright didn't invest in The DAO, he says, because "it wasn't 100% clear what you were purchasing, what the structure would look like and whether that would work." Vindicating his concern, in a postmortem, the SEC concluded the tokens The DAO issued were securities that should have been registered.

In 2017, Wright cofounded what would become Tribute Labs with Swiss software engineer David Roon to advise companies on how to embed legal contracts into the blockchain, adding new Cardozo grad Priyanka Desai as chief operating officer. In essence, he was selling the pans in the gold rush, but he couldn't help but prospect too—he's one of the key figures behind Flamingo.

While Tribute's DAOs are funded with ether and operate on the blockchain with certain key protections written into their code, they're organized as Delaware limited liability companies, with investors holding their equity interest in units, not crypto tokens. To further keep SEC watchdogs and reporting requirements at bay, they're open only to accredited investors—investment funds and individuals with income above $200,000 or investable net worth above $1 million. No investor can own more than 9%, and Wright limits his own holdings to 1% of each DAO.

The Tribute DAOs' bylaws require only a majority of those voting on any deal (not a majority of all members) to approve a purchase and provide for a mechanism for disaffected participants to get their money out—or, as it's known in the DAO world, to "rage quit." Despite all their interaction, members can choose to remain anonymous from one another. Tribute Labs, with 12 lawyers, engineers and financial types all working remotely, vets all participants, fulfilling federal "know your customer" requirements and issuing annual K-1 tax reports required by the IRS. Flamingo participants hail from New York, California, Puerto Rico (a crypto investor tax haven) and Australia, among other places.

JENS KRISTIAN BALLE FOR FORBES

Wright points out that the U.S. legal system is more DAO-hospitable than those in Europe, since in the U.S. you can create member-managed companies that don't designate a single manager or CEO. He helped write a new Wyoming law that allows for LLC DAOs but says the Delaware law is just as flexible.

Additional Tribute-fueled DAOs have sprouted almost organically. Last October, Neon DAO raised $20 million in just 45 minutes to invest in the metaverse and has already bought undeveloped virtual land. Two months later, Noise DAO, focused on music NFTs, closed in 30 minutes and raised $7 million. Red DAO raised $12 million in September to focus on digital fashion (both NFTs representing ownership of a physical piece of clothing and outfits in the metaverse). One member is already advising fashion brands on NFT strategy—not unusual, as DAO members often see themselves as players and not just passive investors. Flamingo, for example, commissioned NFTs by unknown artists who have gone on to digital fame—in part via the credibility conveyed by Flamingo.

How big could investing DAOs get? The global money management industry now tends more than $100 trillion in assets, and Syndicate cofounder and CEO Ian Lee predicts DAOs will hold at least 2% of that in 10 years, increasingly moving into big money pools like stocks and real estate. A former VC and head of crypto at Citigroup, Lee has some big-name backers for Syndicate, including Andreessen Horowitz, Coinbase Ventures, Snoop Dogg, Ashton Kutcher and Reddit cofounder Alexis Ohanian.

The ecosystem matures quickly. In a house 90 minutes from Vancouver, 39-year-old Jess Sloss is a leader (or, as he calls it, "instigator") of Seed Club, which aims to be the Y Combinator of DAOs, running eight-week startup workshops for cohorts of 15 that win acceptance into the program. It gives them advice on topics like marketing and how to launch a token.

Sloss got into digital marketing, then went to work for crypto startups. Along the way, he joined the ranks of those frustrated by the power of the big web companies. "The value that we were creating for these networks was massive, and our ability to have a say in those networks, or have an ownership stake, was minimal or zero," Sloss says. "Are we just going to be living with these feudal overlords and farming for them?"

THE GLOBAL MONEY MANAGEMENT INDUSTRY NOW TENDS MORE THAN $100 TRILLION IN ASSETS, AND SYNDICATE COFOUNDER AND CEO IAN LEE PREDICTS DAOS WILL HOLD AT LEAST 2% OF THAT IN 10 YEARS, INCREASINGLY MOVING INTO BIG MONEY POOLS LIKE STOCKS AND REAL ESTATE.

Feudal overlords? Sloss isn't quite as out-there as he sounds. Last year he raised $2 million from dozens of angel investors including a Tribute Labs DAO; Union Square Ventures partner Nick Grossman is a backer. Plus, Seed Club is just one of many DAOs animated by a determination to make sure creators and those who come up with ideas—as well as investors—keep a fair share of the wealth. DAOs, says the 50-something Frank Rotman, a managing partner of fintech venture capital firm QED who has recently started studying DAOs, are "playing to an ethos and a zeitgeist that has hit the next generation."

Out in Silicon Valley, Syndicate is looking to scale up the DAO model far faster, with a service that allows up to 99 investors to instantly turn an ethereum wallet into a DAO—a "Web 3 Investment Club" that votes and tracks its holdings on the blockchain. The basic setup is under $300; the service launched in late January, and in under a week, 200 DAOs had signed up.

Pitfalls abound. Scammers continue their pestilence. If assets do swell into the trillions, it's hard to see the SEC adhering to rules designed for the financial equivalent of knitting circles. The regulators already consider tokens to be securities if they can be bought and sold—as opposed to merely used for voting and then burned (destroyed) when an investor withdraws. And an entire decentralized trading exchange, Uniswap, already exists. "It really is mass civil disobedience," Rotman muses.

Finally, there's the matter of performance. If the wisdom of the crowds better mimics the meme-stock bozos than the enlightened ideals of Aristotle, DAOs will have a short shelf life. After their bestseller drew scrutiny, those Beardstown ladies were ultimately revealed to be market underperformers, rather than Buffetts in the basement. Then again, the faceless hordes behind Flamingo have done far better than just CryptoPunk NFTs—their ahead-of-the-curve calls have helped them turn $10 million into nearly $1 billion in 15 months. A 1% stake in Flamingo, which originally cost $23,000, now goes for 3,000 ether—about $8 million. And new members are screened for the knowledge and influence they can add—not unlike a blue-chip VC or hedge fund seeking partners, but without the crazy fee structure. F

Turmoil

"A man who makes trouble for others is also making trouble for himself."
—Chinua Achebe

"Every breathing soul longs to overcome."
—Ted Dekker

"I was like you once, he added—in love with turbulence."
—Louise Glück

"It's astonishing how much trouble one can get oneself into, if one works at it."
—Neil Gaiman

"As muddy water is best cleared by leaving it alone, it could be argued that those who sit quietly and do nothing are making one of the best possible contributions to a world in turmoil."
—Alan Watts

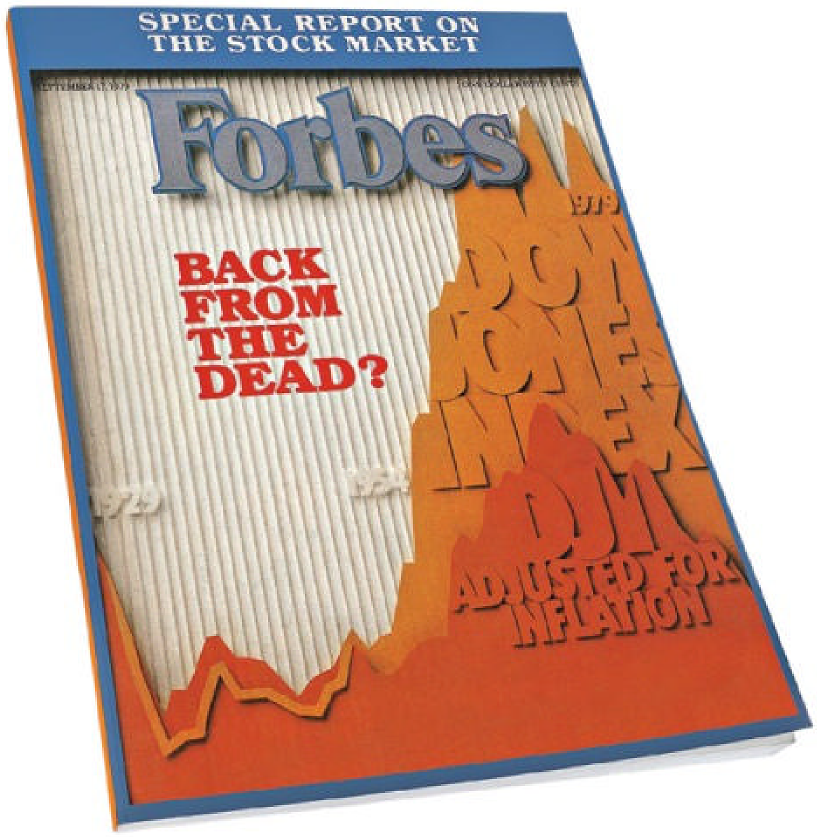
"The more difficult the victory, the greater the happiness in winning."
—Pelé

"I got my heart's desire, and there my troubles began."
—Lev Grossman

"About me all goes really silent, from time to time, whereas for the righteous the tumult of the world never stops."
—Samuel Beckett

"The difficult problems in life always start off being simple. Great affairs always start off being small."
—Lao Tzu

"I don't damsel well. Distress, I can do. Damseling? Not so much."
—James Patterson



Madcap Money

September 17, 1979

"The market is an ongoing drama," mused William LeFevre, a vice president at Granger & Co., a stock brokerage firm. The Dow Jones Industrials were up 9.5% for the year but remained significantly below the record highs reached three years earlier. Overall, stocks were barely beating inflation, which had averaged 7.5% per year between 1974 and 1978. A typical savings account returned a tax- and inflation-adjusted minus-6%; corporate bonds, about negative 2%. A majority of Americans said "they were unwilling to take the risks of long-term investments in stocks. They see stocks a poor bet for preserving capital and purchasing power." Our advice for navigating the turbulence was as true then as it is now: "If one thing is certain, it is that **no trend goes on forever**." If stocks seemed bad then, there would just as surely come a time when they didn't, resuming their climb upward. **"By the time the general public fully grasps a trend, that trend is nearly over."**

SOURCES: THINGS FALL APART, BY CHINUA ACHEBE; THE MAGICIANS, BY LEV GROSSMAN; SAVING THE WORLD AND OTHER EXTREME SPORTS, BY JAMES PATTERSON; FAITHFUL AND VIRTUOUS NIGHT, BY LOUISE GLÜCK; QUANTRAZ, BY SUKANT RATNAKAR; THE WAKE, BY NEIL GAIMAN; MOLLOY, BY SAMUEL BECKETT; SIX COUSINS AT MISTLETOE FARM, BY ENID BLYTON; THE COLOSSUS OF NEW YORK, BY COLSON WHITEHEAD.

"Improbable as it may be, the day still has a few indignities left."
—Colson Whitehead

"There never is any escape from difficulties, never. They have to be faced and fought."
—Enid Blyton

"History is the transformation of tumultuous conquerors into silent footnotes."
—Paul Eldridge

"Evolution is the floating bridge on turbulent waters. Any time an organization misses a change step, it will face extinction."
—Sukant Ratnakar

"When you go in search of honey, you must expect to be stung by bees."
—Joseph Joubert

"I have told you these things, so that in me you may have peace. In this world you will have tribulation. But take heart—I have overcome the world."
—John 16:33

FINAL THOUGHT

"If you can't stand punishment, you wouldn't be able to stand success."

—B.C. Forbes