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NEW ZEALAND......NZ $13.00
PAKISTAN....................RS 600
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SINGAPORE..............S $12.50
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THE FULLERTON HOTEL

▲ PAGE 44

"WE ARE NOT AFRAID TO TAKE CALCULATED BETS."

—Jessica Tan, tech czar at Ping An Insurance, No. 10 on our Global 2000 List.

THE GLOBAL 2000

COMPANIES, PEOPLE

COVER PHOTOGRAPH
BY JAE-HYUN KIM FOR FORBES

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▲ PAGE 26

ITALY'S FERRERO SOLD $12.5 BILLION WORTH OF SWEETS LAST YEAR AND IS GETTING FATTER.

▼ PAGE 66

"I NEVER IMAGINED GETTING THIS FAR."

—Handbag maker Kenny Park, new member of KOREA's 50 richest.


OUR HONG KONG

Tightly Wound

Mahathir's Malaysia is oasis of financial calm.

At Asian meetings in early May, I noted that the good but not great global economy is akin to a sturdy old guitar with very taut strings, poised to play the financial chords that have stopped the international music before (think 2008) and remain subject to sudden upsets. Though international trade has been much in the news with the blustery new U.S. positions, leverage and closely interwoven banking relationships pose more acute risks.

Subsequently, a political scare out of Italy (would it reject the euro?) underscored the point. Markets trembled. Earlier on, indebted emerging economies were the source of worry. Some are basket cases from misrule—Venezuela and Iran in the present and Argentina and South Africa in the recent past—but others are still fundamentally functional if seriously hobbled—Brazil, Turkey, Mexico, Nigeria.

In Asia, the recent fretting has centered on Indonesia, the Philippines and India because of foreign borrowings or capital outflows. They all firmed up as May ended, but this was a reminder of how even seemingly robust output records can mask vulnerabilities. In smaller economies in South Asia—Pakistan and Sri Lanka—glaring weaknesses remain. The willingness of China to pump loans into precarious client states is cold comfort in an environment of tightening monetary policies, led by Washington.

Equity and property markets have remained frothy, not yet reflecting these gathering storms. At what point, with rising interest rates, does this end? (That was a concern of tycoons with whom I met in Hong Kong.) One ray of sunshine amid these clouds is the stability of Malaysia even as a political revolution toppled the long-dominant governing circle. A true housecleaning of the muck of decades of cronyism would offer a chance for a legitimate leap to "rich economy" status. That this would commence now under Mohamad Mahathir, so much a part of past heavy-handed efforts to elevate Malaysia in the face of financial flurries, is rich with irony.

The bigger they get, the slower they rise or fall—usually. That's the rule for our annual Global 2000 roster of the world's largest public corporations. Some turbocharged entries are exceptions. Take three from China: Ping An Insurance *(see p. 44)* crashes the Top 10, from No. 16 last year. Internet combine Tencent jumps from No. 148 to No. 107. And most impressive, new-economy juggernaut Alibaba Group makes our 5% pantheon at No. 81, rising all the way from No. 140 last year.

Tim W. Ferguson

Tim Ferguson
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AP PHOTO/SADIQ ASYRAF

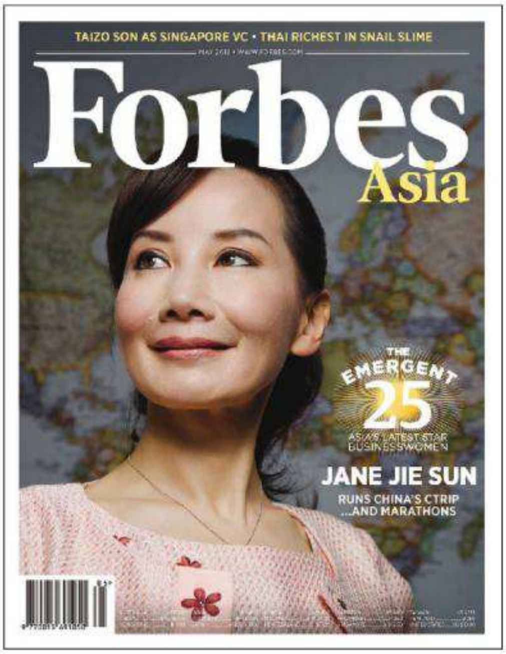
June 2018
Volume 14 • Number 5

FORBES ASIA (ISSN 1793 2181) is published monthly, except bimonthly in January/February and July/August, with an additional special issue in October. FORBES ASIA is printed at Times Printers in Singapore. Singapore MCI (P) 050/12/2017. Malaysia KDN PPS 1411/01/2013 (022902).

FORBES ASIA

READERS SAY

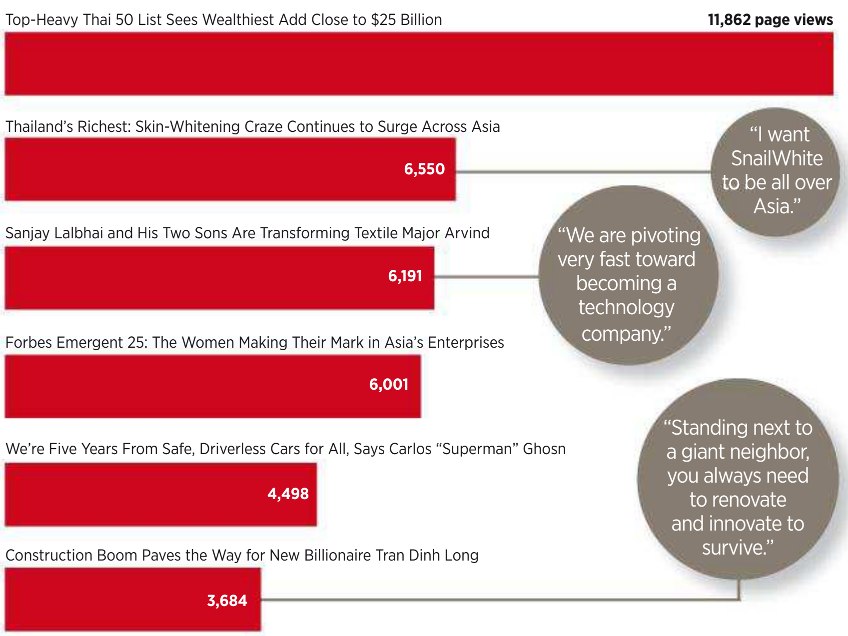
CONVERSATION

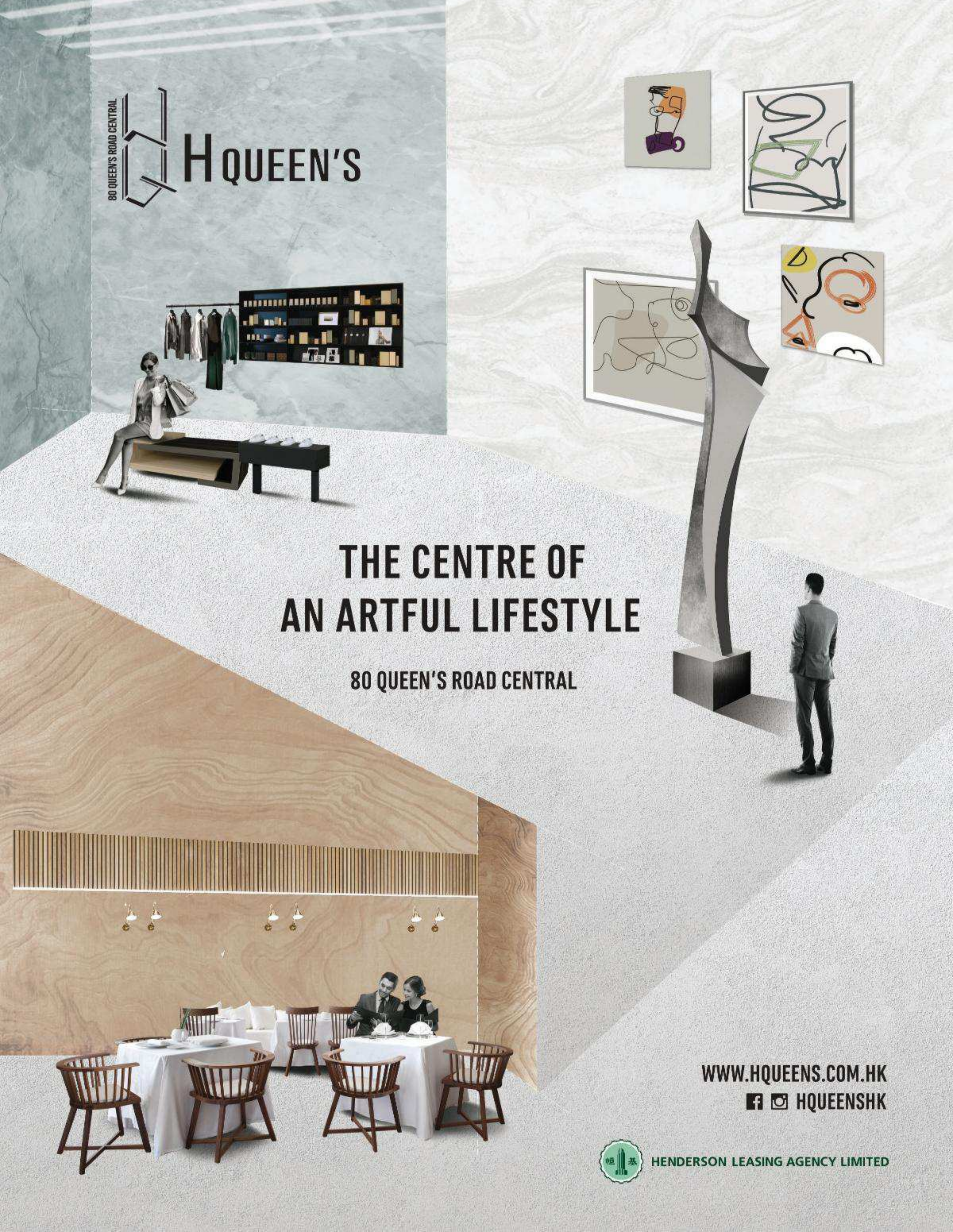


FORBES ASIA Editor Tim Ferguson's recent coverage of Malaysia's election, in which Prime Minister Najib Razak lost to his onetime mentor, former PM Mahathir Mohamad ("Mapping Opportunities," *May, page 6*, and online follow-up, "They Gave an Election in Malaysia and Everyone Came"), elicited plenty of response on Facebook. Vishal J. Singh posted: "We're still celebrating here!" And Ram Esh opined, "Ripe for a switch. War ended but the dust still continues flying, more of it now. Ten promises in 100 days are uphill tasks that must be fulfilled. Highly unpredictable on direction of nation now." Padman Arulampalam proudly declared, "Malaysians showed how great democracy is—and are celebrating it, responsibly."

THE INTEREST GRAPH

Our tally of Thailand's richest led the way in page views online:

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"With all thy getting, get understanding"

CRY FOR ARGENTINA THE IMF IS COMING

BY STEVE FORBES, EDITOR-IN-CHIEF

ARGENTINA IS IN economic trouble—again. But the country has an opportunity to turn the economic world upside down.

Its conservative president, Mauricio Macri, is seeking a deal with the IMF for a $30 billion credit facility. Since his surprise win in 2015, Macri has been lackadaisical about tackling runaway spending, massive borrowing and rampant cronyism. Now the peso is under assault, as the government has been pressuring the central bank to buy more bonds with money created out of thin air—a surefire way to stoke inflation. Argentina has wrecked its currency time and again and seems on its way to doing so once more, the peso having lost 20% of its value this year.

Macri is holding the rotten hand dealt by his two corrupt, tyrannical predecessors, Cristina Kirchner and Néstor Kirchner. But Macri won't find salvation with the IMF. Argentines loathe that agency, because during its last round of austerity measures, which were imposed 18 years ago, unemployment rose to 20%.

There's a simple way for the beleaguered president to stop the currency rot immediately: Buy pesos in the exchange markets with the government's foreign reserves—about $50 billion at last count—until the peso recovers all the ground it has lost. In fact, with that war chest, the government could purchase Argentina's entire basic money supply.

Critics scoff that such a move won't work. After all, Argentina already spent nearly $8 billion in exchange operations without stopping the slide. But these skeptics are missing a rather blatant error Argentina made: The central bank bought pesos, thereby reducing the supply, which was a good thing, but then it turned right around and increased supply by buying bonds. That's the equivalent of using a bucket to scoop out water at one end of a pool and then pouring it back in at the other end.

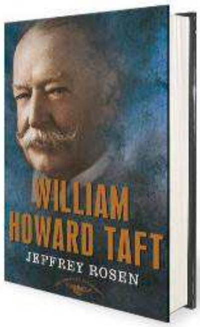
Macri should send his central bankers a simple memo: Cease such nonsense immediately, and reduce the monetary base until the peso/dollar rate goes from 25-1 to 15-1.

When the crisis passes, which it quickly would, he should consider something truly radical: Make the dollar Argentina's official currency. People would gladly turn in their pesos for dollars at a 15-1 rate. Given their country's sorry history of monetary mismanagement, Argentines know it's only a matter of time before the peso is vaporized again.

Ecuador, Panama and El Salvador already use the greenback. Even though Ecuador was recently ruled by an anti-American leftist, he quickly gave up the notion of trying to reintroduce a local currency—the people wouldn't stand for it.

William Howard Taft

Jeffrey Rosen *(Times Books)*



Talk about a lack of respect! The 27th U.S. president is remembered, if at all, as the portliest occupant of the Oval Office. Not helping his physical image is a walrus mustache that screams "out-of-touch/outdated." More substantively, Taft's one-term tenure was a severe letdown after the hyperenergetic and innovative administration of his always exciting predecessor, Theodore Roosevelt. The dazzling achiever versus the do-little dullard!

There's no question that Taft was ill-suited to the presidency, being remarkably tone-deaf when it came to practicing politics. But this slim, well-researched and well-written biography substantially beefs up Taft's reputation. Taft was a remarkable man who scored major achievements during his lifetime—even during his unhappy stint in the White House.

Taft's lifelong desire was to serve on, if not lead, the Supreme Court. He clearly had the brains and the temperament to do so. (His ambitious wife wanted him to be president instead.) He was appointed to an Ohio state judgeship in his 20s. So impressive was Taft that he was considered for the high court in his early 30s; instead, he was appointed U.S. solicitor general, where he won 16 of the 18 cases he argued before the Supreme Court. His contemporaries were struck by Taft's thoroughness and integrity. He went on to a seat on the Court of Appeals for the Sixth Circuit. (During these years, Taft became fast friends with another rising star, Theodore Roosevelt.)

President William McKinley plucked a reluctant Taft off the bench and made him the civil governor of the newly acquired former Spanish colony, the Philippines. It was a job fraught with difficulties, as the U.S. was waging a nasty war against independence-minded guerrillas. Taft performed brilliantly, achieving genuine popularity among the Filipino people. Roosevelt, who became president when McKinley was assassinated, then made Taft his secretary of war, where Taft again did well. In 1908 the immensely popular Roosevelt anointed Taft as his successor, a job Taft really didn't want.

Eventually, however, TR wanted his old job back. Taft's political ineptitude as president gave the Rough Rider plenty of pretexts for a break, and he challenged Taft for the 1912 GOP nomination. Taft won, but TR then bolted and ran as an independent. The split made for an easy Democratic win, with Taft finishing a humiliating third.

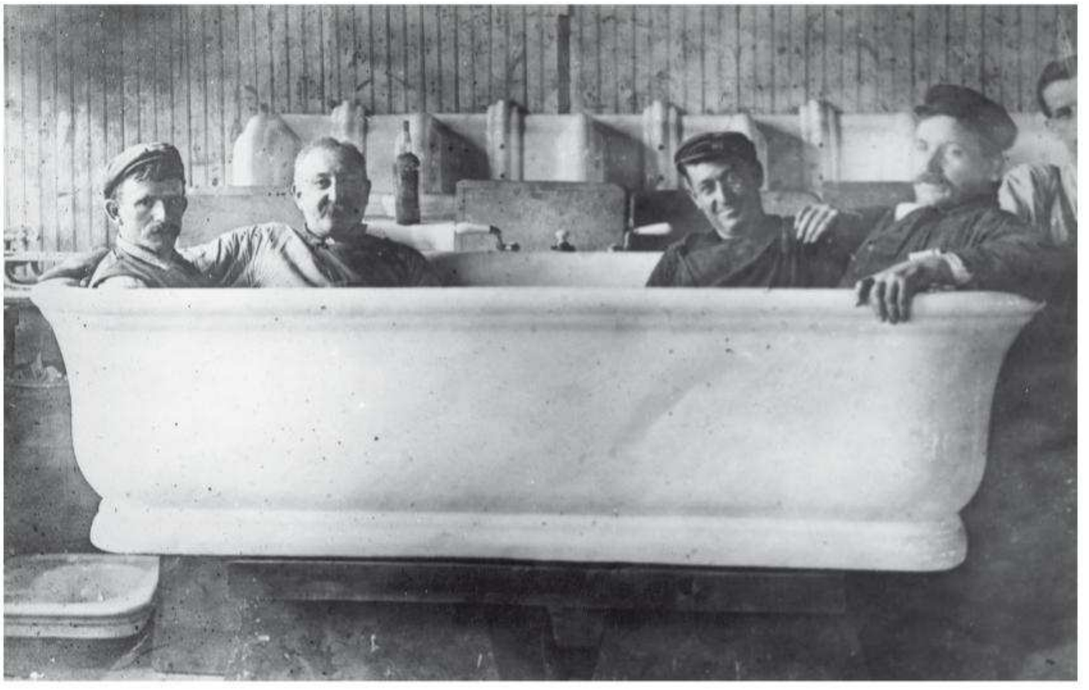
Rosen argues persuasively that Taft's approach to the presidency was diametrically opposed to Roosevelt's.

- TR thought he could do anything he wanted, as long as it wasn't absolutely and explicitly forbidden by the Constitution; Taft wouldn't do something unless it was clearly permitted by said document.
- TR didn't hesitate to run roughshod over Congress; Taft profoundly believed that doing so undermined the separation of powers.

Despite Taft's seemingly somnolent approach to governing, some important things were accomplished. In fact, here, as elsewhere, Taft was an effective executive. Henry Stimson, who served under Presidents Taft, Franklin Roosevelt and Harry Truman as secretary of war and under Herbert Hoover as secretary of state, found Taft to be, by far, the finest administrator.

- Taft was portrayed as betraying his predecessor's conservation efforts. The truth: In four years Taft withdrew more land for federal protection than Roosevelt did in two terms.
- Taft was a far more vigorous trustbuster, eschewing TR's rather idiosyncratic definition of "good" and "bad" monopolies.
- Roosevelt wouldn't touch a third-rail issue: tariffs. Taft did and was pilloried for the results, even though he was the first Republican chief executive to achieve a reduction in tariffs, from an average tax of 24% to 21%.
- Regarding trade, Taft pushed for treaties with other countries to reduce barriers. He negotiated a free-trade agreement with Canada, which our northern neighbor refused to ratify. (This wasn't achieved until 1987.)

Taft took a political hit for refusing to invade Mexico—without express congressional approval—during the Mexican Revolution, in order to be ready to protect American lives and property there. (Taft's successor, Woodrow Wilson, did so, and the results were anything but successful.)



Tub custom-made for our portly 27th president.

GRANGER COLLECTION

Lesser but fun achievements include being the first president to throw out the opening day pitch for baseball and starting the tradition of the seventh-inning stretch.

Taft finally achieved his Supreme Court dream when Warren Harding named him Chief Justice in 1921, the only former president to achieve this position. Here Taft was a dynamo. He pushed through long-needed reforms of the federal judiciary, making it, Rosen argues, a truly equal branch of government. He also got the High Court the magnificent building it occupies today. Rosen's verdict: Taft was the most consequential Chief Justice since his hero, John Marshall. F

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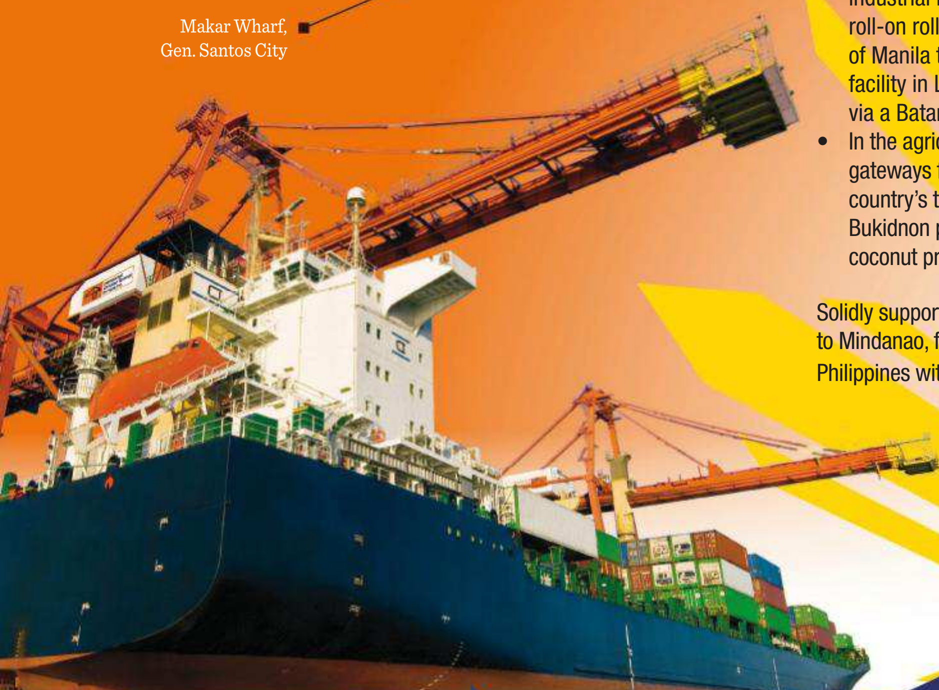

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Forbes Asia

BYTEDANCE TO THE MUSIC

The super-unicorn's Douyin video site is cutting in on WeChat's hold on Chinese youth.

BY YUE WANG

Athena Yang learned about Douyin from her boyfriend and soon became hooked. The 29-year-old, who works at an investment firm in Beijing, now spends her lunch break and evening watching music videos on the app, where people post 15-second clips of themselves—dancing, singing or even applying makeup. "There is a lot of funny and creative stuff on Douyin," Yang finds. "It is really relaxing and helps to relieve stress at work."

Developed by Beijing ByteDance Technology, Douyin, also known as Tik Tok, has taken China's younger generation by storm. Similar to the popular music app Musical.ly, which ByteDance acquired for $1 billion last year, it allows users to make, edit and broadcast short video clips to their favorite songs, while using an algorithm to promote them in individually tailored feeds. Now Douyin's explosive popularity is giving ByteDance—a $20 billion startup also known for the Toutiao news app—an edge as it contends with Tencent to become China's media and entertainment powerhouse. Yet the firm is facing YouTube-like challenges: Some of Douyin's clips are drawing scrutiny and a backlash online for inappropriate and potentially dangerous content, adding to the regulatory grief ByteDance already faces.

Douyin's recent success comes from its content production mechanism. As with most short-video platforms in China, it relies on clips made by both professionals and amateurs to attract eyeballs. But ByteDance does it better than local peers: Douyin regularly invites social media stars to participate in company-hosted online video contests, where they challenge each other or ask followers to broadcast clips to a certain theme. This has given rise to viral online trends that upped the app's popularity.

For example, some 70,000 app users once raced to make humorous moves to the song "Seaweed Dance" by Chinese artist Xiao Quan—a craze that inspired countless internet memes and offline dancing contests across China. Douyin selects the most popular moves to put in personalized feeds. And some online stars, such as 25-year-old music producer Zhou Yue, tell *Forbes Asia* they can earn millions of yuan a year by making videos for Douyin. Advertisers like automobile companies and gaming studios are paying to work with them on related promotional songs that are shared across the site.

"Douyin has been producing better-quality content than other short-video platforms in China," says Chen Yuetian, a partner at Chinese investment firm S. Capital. "Its clips are more fashionable and attractive to young people."

A year and half after its launch, Douyin has attracted 166 million active users, the majority of them under 30, according to Beijing consultancy Analysys International. They spend an average of 12.6 hours inside the app monthly—an engagement level surpassing the 12.3 hours spent at Tencent-backed video-sharing site Kuaishou, the firm's data show. Meanwhile, Douyin has been topping the downloading chart at the China iOS Store for months, and it even became the most downloaded non-game free app worldwide in the first quarter this year—an ac-

Shake it till you break it: Music app Douyin lets users have their 15 seconds of fame, sounding a sour note for rival Tencent.

colade previously held by Facebook's WhatsApp, according to U.S. research firm Sensor Tower.

The popularity is being felt at Tencent. The Shenzhen tech giant has been building its own entertainment empire, often using the super-app WeChat to direct people to Tencent-offered text or video services such as Weishi, a mini-video platform the company revived in April after launching it in 2014. WeChat has also been adding more video elements, such as allowing users to upload longer clips to their friend circles to increase engagement.

But as people spend more time on Douyin, their attention is being diverted from WeChat—where Tencent wants to keep them for more selling. According to Questmobile, a Chinese data analytics firm, short-form video accounted for 7.4% of the total time Chinese people spent online in March, up from 1.5% a year ago. Meanwhile, instant-messaging services, primarily WeChat, are down to 32% from 37% in the same period. "Short-form video apps like Douyin are putting pressure on WeChat," says Zhang Xueru, an analyst at Shanghai's 86 Research. "They are all competing for users' leisure time, but it is now increasingly occupied by Douyin."

ByteDance and Tencent are taking their clashes to court. The two companies recently filed a series of lawsuits against each other for defamation and unfair competition, with Tencent demanding one yuan ($0.16) in damages and public apologies on ByteDance's platforms. ByteDance is asking for 90 million yuan in damages, accusing Tencent of purposely blocking its content on the popular QQ messaging app. ByteDance founder and chairman Zhang Yiming, 34, also engaged in a rare online spat with Tencent founder Pony Ma, accusing the latter's Weishi app of plagiarizing Douyin's model. ByteDance and Tencent didn't respond to *Forbes Asia*'s requests for comment.

Meanwhile, Douyin has other issues. In Hong Kong the app has been drawing a backlash for what some consider inadequate protection for underage children, who are uploading clips containing violent and sexually suggestive scenes to gain online fame. What's more, the state-run *People's Daily* is calling for stricter oversight of the app, after press reports that some users were seriously injured by imitating Douyin videos. Douyin responded publicly by saying some dance or sport moves "are not suitable to be imitated by all users," urged parents to take care, and said the app would include "risk warning systems."

These come as ByteDance is already mired in a regulatory quagmire. China's Ministry of Culture and Tourism has just launched a formal investigation of the company for publishing a comic series that it said distorted Chinese history. (ByteDance took it down with an apology.) In April, authorities also told the company to permanently shut down its popular joke-sharing app Neihan Duanzi, which the country's media watchdog criticized for promoting "vulgar and improper content." In a public apology letter, Zhang said the product "walked the wrong path" and promised to hire 10,000 people to police his sites.

Competition is also heating up. In addition to Tencent, China's internet giants are all tapping short-form video to capture young users. The Baidu-backed iQiyi, for example, recently launched its own mini-video app Nadou, using artificial-intelligence-based software to analyze online trends and edit related clips. This may force ByteDance to bolster marketing to promote its own service, potentially hurting margins, 86 Research's Zhang says.

"They need to generate more good content to build an online community," Zhang says. "Regulation is one thing, but what determines how far this product can go is whether it can add more social elements, so users can become better engaged."

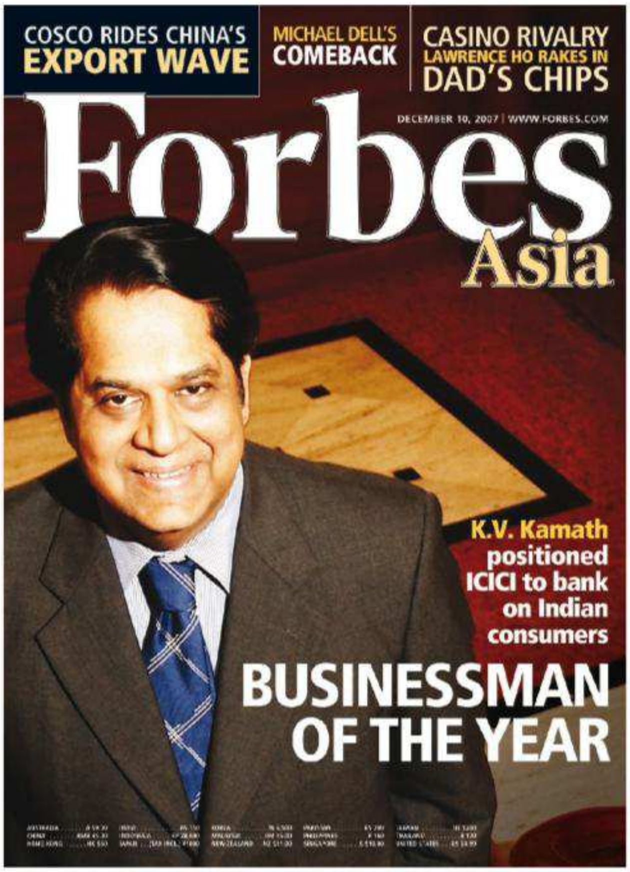
Indian Banker in Shanghai

Heading a Brics lender, K.V. Kamath sees ties growing between its biggest backers.

BY RUSSELL FLANNERY

K.V. KAMATH *is one of India's most respected financiers, having run ICICI Bank till 2009 and serving as its nonexecutive chairman through 2015. By then he was also prominent on the Infosys board.*

His career took a turn in 2015, however, when he became the first president at the New Development Bank, a multilateral lender in Shanghai set up by the governments of Brazil, Russia, India, China and South Africa—collectively the Brics countries. In an interview with Forbes China *at the bank's headquarters, Kamath, now 70, says he finds long-distant India and China showing "great interest in wanting to work together."*



Kamath's accomplishments earned him our high praise in 2007.

FORBES CHINA: How do you see the economic relationship between these two in the future?

K.V. KAMATH: The direction of this relationship is set by the leadership of these two countries, and the frequent visits by the prime minister of India and the president of China positively drive this. For example, whenever the Consulate General of India here in Shanghai has an event to introduce economic opportunities in India to a group of Chinese businesses, there is great interest. ... Many Chinese companies have set up shop and manufacturing facilities in India, and those brands will be visible in India.

With the efforts that are being made by India on metro networks within cities and other infrastructure projects that are now the priority for the country, we will see win-win situations. Of course, this is already happening in India, in part in the coal sector as a significant portion of the coal-fired plants set up in the last ten years came from China. The same thing is happening now in solar, in the renewable energy field. Some of this is clearly visible, and some of it happening quietly under the surface.

How do you see Indian companies getting further involved in China?

The first to move from India into China have been the Indian tech companies. I think that part of the relationship will grow. They are large employers, so they are welcomed to various cities. That continues, and that itself will drive commerce and trade. The economic relationship will then be built on a very strong foundation.

India and China are both enjoying a period of very dynamic entrepreneurship. How can your bank facilitate the intermingling of some of that energy?

As our private sector lending starts taking shape in the future, we will push on this entrepreneurship front between China and India. In the next three years, there is going to be a significant relationship in the internet and services sectors.

To what extent are you working to help countries align with the China's Belt & Road initiative?

The bank is mandated to mobilize resources for infrastructure and sustainable development projects in Brics and other emerging economies and developing countries, complementing the efforts of multilateral and regional financial institutions for global growth and development. As we get to projects which are in this direction, we would consider them. However, as of now, we don't have any projects in this direction.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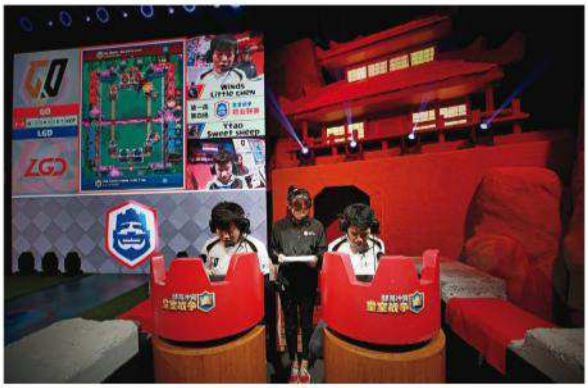
Playtime

China's $32.5 billion gaming market is driving mobile esports to new heights.

BY ELAINE RAMIREZ



Avid esports athletes playing online battle game *Clash Royale*.

The thriving pro gaming industry may have its roots in South Korea, but it has sprawled to unprecedented levels in neighboring China—so much so that it has surpassed the U.S. market. Asia now makes up half of the global gaming market, according to market researcher Newzoo.

While classic titles like *League of Legends* have an unsurprising stronghold in China, mobile esports games like *Clash Royale* and Tencent-owned *Arena of Valor* are propelling the country's obsession and redefining the industry. Thirty-six percent of the world's gaming market is now on mobile devices, with 183 million mobile gamers in China.

Such fast growth makes China's esports industry the new frontier for game publishers like Supercell, which is hoping to reinvigorate its two-year-old mega-hit *Clash Royale* by investing in a new league in which nearly 7,000 players compete for $1 million prize money.

For Korean-U.S. esports startup Gen.G, which grooms and trains gamers to be international champions, the multiplayer online battle game *Clash* is a foot in the door of China's $32.5 billion gaming market. With hubs in California and Seoul, Gen.G (short for Generation Gaming) was listed as a South Korean startup to watch in 2018, and recently set up its first mobile esports team of five players in Shanghai to take on the *Clash* league of 36 teams.

Arnold Hur, Gen.G's chief growth officer, expects esports will match regular sports in popularity in China and elsewhere in Asia, because those of any skill level can play. The rise of mobile is also giving rise to new demographics of game players, such as older users and people with disabilities. "With esports, even if I'm bad at it, I can be immediately matched with somebody at my skill level and have a great match," he says.

But pro esports is serious business, making an estimated $660 million in 2017, with 16% of it from China alone, according to Newzoo data. Perhaps game publishers used to see esports as a marketing ploy, but now they are finding it critical to invest in the creation of esports divisions, Hur says.

While South Korea remains a crucial hub for esports, Hur believes that game publishers are putting the U.S. and China on equal footing when considering how to design and market their games. "But I think in the next five years, you're going to have to think about Asia first because the player base, the fan base, everything here is growing so quickly."

The rise of esports in China started with hobbyists competing in the late 1990s on PC games like *Starcraft* or *Counter Strike*, notes Weiwei Geng, Gen.G's China managing director. Powered by a tech revolution and rising incomes, entrepreneurial young people in the early 2010s began to reject the family businesses and launched their own—including esports teams. "They didn't worry about making profit," Geng says. "That's their passion. They have money, they have resources, they have social connections, the network, so they upped the standard and quality of esports 2.0 in China."

Still, there was a stigma against dedicating so many hours to gaming. But the scene saw a profound change in 2016 after the government, which held a longtime stance against gaming and entertainment, recognized China's global competitiveness in the industry and pledged its support to develop and invest in esports. "Then the whole scene started to change. People weren't shy that they were in this business," Geng says.

This year, major companies like JD and Edward Gaming have entered the fray, with the latter raising $15 million from basketball legend Yao Ming, while Tencent sprawls into TV shows based on esports players' lives.

Despite the boom, there is a commercial imbalance: Chinese companies often enter South Korea to build esports teams, but little business goes in the other direction, Hur says. "I think China being difficult, the very high entry, that scares a lot of the teams and companies," adds Geng. But the founders of Gen.G, who knew each other from the hit game publisher Kabam, had experience running a 300-person office in Beijing. Says Geng: "The team knew that if you can figure it out and do it right, the benefit of getting to China can be huge."

Additional reporting by Yohan Yun.

Chris Taylor in downtown Seattle. He leads Ofo's business in the U.S., where the company now has 40,000 bikes.

IAN COBLE FOR FORBES

Wheels of Fortune

Can China's Ofo export its bicycle-sharing scheme to a car-loving America?

BY BIZ CARSON

A van pulls up to a warehouse on the south side of Seattle, unloading yellow bikes and placing them in a repair line. It looks nothing like the bicycle graveyards found outside repair shops in China, where thousands of bikes lie abandoned and rusting, but the same company logo appears: Ofo.

Four-year-old Ofo was a pioneer in dockless bike-sharing, in which bikes don't lock to a station but have electronic locks on the tires that click open with the scan of a bar code. That means anyone can ride a bike anywhere and leave it there for the next person to pick up.

The Beijing-based company has 15 million bikes across the globe and an estimated valuation of $3 billion, according to PitchBook. Ofo raised $866 million in an Alibaba-led funding

round in March, a month before Mobike, its rival in China, sold to Meituan-Dianping for $2.7 billion.

Ofo's early start, though, won't enable it to coast to success in North America. There will be plenty of homegrown competitors to fight off after investment in U.S. bike-sharing and scooter-sharing companies topped $260 million in the first five months of 2018, according to PitchBook.

There's another problem. Americans love their cars as much as the Chinese love their bikes. "The cities are built in a way where it's car-friendly and it's not bike-friendly," admits Yanqi Zhang, 32, a cofounder of Ofo. "It did not look very straightforward that we could do any bike business."

Chris Taylor, a former Uber employee who is head of Ofo's U.S. expansion, knows he has an uphill ride. A polite Midwesterner who hasn't owned a car in ten years, Taylor, 36, didn't even visit China before he took the job to translate Ofo's business for the U.S. market. He knew that what worked in China, with its cheap labor costs and little regulation, doesn't necessarily work over here.

But there are signs Americans can be persuaded to part with their car-centric ways. In 2010, people took 320,000 trips on bike-share systems in the U.S., according to the National Association of City Transportation Officials. That number jumped to more than 28 million in 2016 with the rise of dock-based bike-sharing, which requires customers to ride from one bike-parking station to another.

Dock-based rentals have two things going against them. One is that they are less convenient than free-floating fleets. The other is that the docks cost a lot of money—$3,700 for each bike and its dock in the Washington, D.C., program. Dock systems wouldn't exist without either handouts from the government or revenue from advertisers like Citi (in New York City) and Ford (San Francisco).

Smartphones make docks a lot less compelling. Mobike and Ofo seized on the idea and filled the streets with brightly colored bikes that anyone could scan to unlock. "We had to adapt the business model," says Ryan Rzepecki, the founder of Social Bicycles, a bike-share service that operates in 40 U.S. cities and saw two government contracts fall apart after years of negotiations. At his heels were other U.S. startups like Lime and Spin, which are bringing the Chinese model to the U.S. Rzepecki rebranded his company as Jump and sold it to Uber for about $200 million in March.

Ofo's opportunity to enter the U.S. came last year when outdoorsy Seattle, after investing millions in a dock-based program, tore up the docks and opened the city to privately funded dockless systems. Ofo, Lime and Spin are all giving the city a tryout. In six months the trio booked 469,000 trips, nearly double what the dock-based system did during its entire 30-month lifetime. That's not good enough, though, with a bike averaging six uses per week, a third of what an operator will probably need to make a profit.

In China, Ofo charges 15 cents for a ride. In the U.S. it gets $1 and up. Buying the bikes is just the start of the operator's costs: It has to pay people to rebalance bikes around a city and collect and repair broken ones. In China low labor costs mean Ofo can hire swarms of people to comb the streets. For the U.S. Ofo had to develop software that would track how often a bike was being used. If a bike hasn't moved in 24 hours, then it might be broken or in an unreachable location, and Ofo sends someone out to collect it.

Compliance costs? Nothing much, perhaps, in Asia, but something to be reckoned with here. Seattle requires companies to respond within two hours to any bike parking complaint. In Chicago, a new pilot is requiring bikes to lock to objects like a bike rack or signpost. Many cities also put limits on the number of bikes each company can deploy.

Then there's the cost of keeping up at the high end of the market. Bird, in Santa Monica, California, introduced motorized kick scooters in September 2017. Spin gets $20 a day per scooter in San Francisco (its bikes bring in around $1 a day). Lime also added scooters to its lineup alongside electric power-assisted bikes. Not to be left out, Ofo will add battery-powered bikes and scooters this summer.

Hype is not enough. As Susan Shaheen, co-director of the Transportation Sustainability Research Center, points out: Remember the frenzy around the Segway a decade ago? It didn't exactly transform transportation.

With 9 billion rides cumulatively (and 1 million in the U.S.), Ofo is probably well short of the volume it needs to be profitable on its huge asset base. But there's no reason it can't get there.

The company plans to expand from 30 cities here to 100 by the end of the year. If it survives, Ofo could become one of the first Chinese companies to be a household name in the U.S. "I just knew right away that this technology was exactly what is going to fundamentally change how people get around in cities," Taylor says. "You have to have that belief to will it to reality." F

Iron Ladies of Mining Tech

Australia looks to the onset of cost-saving intelligence down under.

BY TIM TREADGOLD

A digital-technology revolution is rocking the world's mining industry just as it has seen a symbolic influx of women into executive roles long reserved for men.

Two iron ore projects in Australia demonstrate what's happening as the world's biggest mining companies, BHP and Rio Tinto, move closer to committing more than $3 billion each to what Rio Tinto calls "intelligent mining" and BHP "the mine of the future." Both are about to make radical changes in their most profitable divisions by designing mines without the burden of legacy equipment, some of which hasn't changed in decades.

Driverless trains and trucks, already being used in a number of projects, will be joined by an array of sensors,

REUTERS/AARON BUNCH

Kellie Parker, a managing director at Rio Tinto Iron Ore, is the brains behind Koodaiderie, Rio Tinto's first intelligent mine.

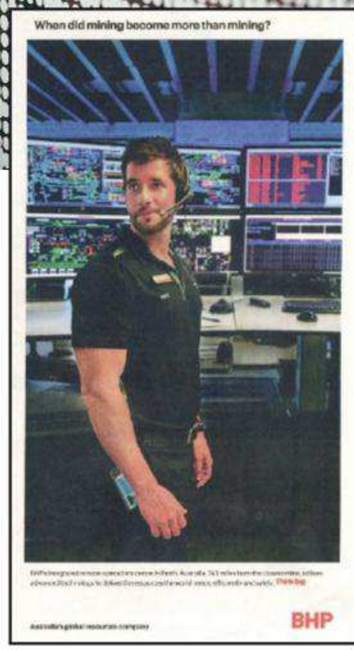
radar controls and Wi-Fi systems that will provide the data to control every aspect of work in the Koodaiderie and South Flank mines—all the way through to rail transport and the final stage of ship loading.

In early April at the launch of a joint venture with education authorities in Western Australia to train workers in automated systems, Chris Salisbury, chief executive of Rio Tinto Iron Ore, said that his company's computer-controlled railway was "already the biggest robot in the world."

But if Salisbury is in charge of a business that produced 330 million tons of iron ore last calendar year, worth $11.5 billion, then Kellie Parker, the managing director of iron ore planning, is who's got to deliver tomorrow's loads. She's in charge of designing and delivering Koodaiderie, Rio Tinto's first intelligent mine.

Parker, a 17-year veteran with Rio Tinto, likens the new technology to how "machine learning" is absorbing processes in various industries and continually improving on that work. It also can give an Asian steel-mill client a peek at supply. "The opportunity to look at your ore body, know what's down-hole and how you can model that, mine it, and refine the data, means you can bring your [minerals] customer closer to your ore body," she says.

At BHP her opposite number overseeing the planning and design of South Flank is Diane Jurgens, the company's chief technology officer, who joined the mining giant in 2015 after a career in information technology and business development with Boeing, General Motors and Shanghai OnStar Telematics in China (telematics being an essential in driverless cars).



BHP Chief Technology Officer Diane Jurgens is using biometric sensors for workers; recent ad highlights BHP's tech.

One of the early technologies being tested by BHP under the guidance of Jurgens, 55, is a cap that measures an equipment driver's brain waves to look for signs of fatigue. She says the sensors can inform the driver, "but just as importantly, it's integrated with our back office and supervisors can intervene."

Mining has never been an industry which welcomed women despite its patron saint being Saint Barbara, who

CARLA GOTTGENS/BLOOMBERG (TOP)

also keeps an eye on artillerymen and military engineers, with the use of explosives being the common link. In Australia, women were banned from working underground until 40 years ago when Britain's Queen Elizabeth visited the deep workings of the Mount Charlotte gold mine.

Today, Australia's three biggest publicly traded iron ore mining companies have women at (or close to) the top, led by the chief executive of Fortescue Mining, Elizabeth Gaines, 54. Like BHP and Rio Tinto, Fortescue is automating its operations, but largely through retrofitting autonomous haulage equipment to existing mines. (Of course, there's also Australia's richest person, Gina Rinehart, the executive chairman of closely held Hancock Prospecting.)

Koodaiderie and South Flank will be the next generation of mines, and while both require final board approval before construction can start, perhaps early next year, that seems to be a formality because of the need to develop new mines to satisfy contractual sales obligations and the productivity benefits from utilizing the latest technology.

Because what's happening is not a single event but a series of changes that will significantly reduce the manning in a mine and require a workforce with more tech skills and less in manually operating equipment, neither BHP nor Rio Tinto will put numbers on overall cost savings or expected efficiency gains.

But, for example, driverless trucks require less maintenance than those with heavy-footed drivers, computer-controlled trains operate more efficiently and loading a train is better done by computer than by a human. "One of the challenges around the safety aspect is how much ore you put on the rail, which means we tend to underload cars," Jurgens says. "We've introduced lasers and weightometers and ore analyzers so we know the density of the ore, we know the maximum weight we can put in the car, and we can extremely accurately load our ore cars, which has given us [an extra] 2.4 tons per ore car."

With trains routinely made up of 268 cars, that means each trip to Port Hedland can now carry an extra 643 tons of ore, which at the current price of around $65 a ton means $41,795 in extra revenue. Over an average day, when 20 trains make the 260-mile journey, a small technology-driven change in loading becomes an extra $836,160—or roughly $300 million a year. F

QILAI SHEN/BLOOMBERG

CEO Elizabeth Gaines of Fortescue is automating operations, largely by retrofitting haulage equipment to existing mines.

All You Can Eat

After inheriting his family's $13 billion candy empire in 2015, Giovanni Ferrero vowed to supersize it—at any cost. He devoured iconic brands like Red Hots, Butterfinger, BabyRuth and Nestlé Crunch, and he's not done yet. But will his gluttony lead to a meltdown?

BY NOAH KIRSCH

On the outskirts of Alba, a cobblestoned Italian city that date s to Roman times, stands a stark modern fortress. Behind 10-foot concrete walls, steel gates and uniformed guards lies not a nuclear facility or an army base but a chocolate factory. This is the hometown plant of Ferrero, the maker of Nutella, Tic Tac, Mon Chéri and Kinder.

Inside, khaki-clad workers monitor hundreds of robotic arms that craft sweets with military precision. Overhead, thousands of cream-filled Kinder bars zip down conveyor belts. Underneath, high-speed cameras scan for imperfections: A tiny flaw in the coating is enough to trigger a puff of air that shoots the offending chocolate off the line. "We do everything with seriousness and extreme competence," says Giovanni Ferrero, the firm's 53-year-old chairman, in his first-ever sit-down with the American press.

That discipline has built an empire. Ferrero sold $12.5 billion worth of sweets last year, and its namesake owners are worth an estimated $31 billion altogether, $21 billion of which belongs to Giovanni, who's the 47th-richest person in the world. Their success took generations. Founded in 1946 in war-ravaged Italy by Giovanni's grandfather Pietro, the business expanded through

JAMEL TOPPIN FOR FORBES

decades of careful growth, with little debt and no acquisitions.

But after a lifetime of working hand-in-glove with his brother and his father, Giovanni is suddenly alone at the helm. His brother, also named Pietro, with whom he ran Ferrero as co-chief executive for 14 years, died of a heart attack in 2011 at age 47. Then, three years ago his father, Michele, died as well. Left on his own, Giovanni appointed Lapo Civiletti, a longtime Ferrero executive, as CEO last fall in order to concentrate on strategy as executive chairman.

In many ways he is now turning away from what powered Ferrero's ascent: a singular focus on its native brands. Instead, Giovanni is chasing higher revenues through acquisitions. He believes that existing product lines won't be enough, in the long run, to compete with larger rivals like Mars, the maker of M&M's and Snickers (2017 confectionery sales: $23.7 billion), and Mondelez ($23 billion), which has Oreo and Toblerone. So in 2015 he bought the venerable British chocolatier Thorntons for $170 million. It was Ferrero's first branded acquisition ever. His biggest purchase came in March, when he acquired Nestlé's U.S. candy business for $2.8 billion in cash. American icons like Butterfinger and BabyRuth are now Giovanni's domain.

He can afford it. Ferrero is highly profitable—*Forbes* estimates the company nets about 10% of sales—and is sitting on a pile of billions in cash. But it's still a risky endeavor. At its core, the chocolate business is a branding game. Every purveyor sells roughly the same commodities. Yet by some alchemy, or marketing savvy, Ferrero's goods have traditionally commanded a higher devotion. Nutella especially so. When Columbia University began offering the spread (a blend mainly of cocoa, sugar, hazelnuts and milk) at a dining hall in 2013, students smuggled it out like bandits, sending costs up a reported $5,000 in a week. In January, after a French grocery chain marked down jars by 70%, riots ensued.

The newly acquired product lines, however, are less premium, which threatens to dilute those hefty margins and complicate Ferrero's business model. And Giovanni is going against the grain: His competitors are running from cheap, junky sweets as healthier snacks like trail mix are increasingly in vogue.

Giovanni, who runs the company from Luxembourg, is fixated on scale as an end unto itself, defying the views of his late father and industry experts. Yet if he's wrong, Ferrero's market position could falter. And he would become the prodigal son who blew billions of dollars trying to reinvent the wheel.

THE FERRERO STORY begins in the shadow of World War I. In 1923, after serving in the military, Pietro Ferrero opened a pastry shop in Dogliani, in northwestern Italy. Life soon began to move quickly. The following year he married 21-year-old Piera Cillario, who gave birth to a son, Michele, in 1925.

The family spent the next decade moving between cities, as Pietro perfected his skills at other shops. Then, in 1938, he moved to East Africa with a plan to sell biscuits to the Italian troops dispatched there by Mussolini. The effort fizzled, so Pietro returned home. By the time World War II began, the family had settled in the quiet hills of Alba.

It was there that Pietro found his biggest success. At the prompting of his younger brother, he began experimenting with cheaper alternatives to chocolate, an out-of-reach luxury in wartime Italy. He landed on a blend of molasses, hazelnut oil, coconut butter and a small amount of cocoa, which he wrapped in wax paper and sold around town. He called the mixture Giandujot, which traced back to gianduiotto, a similar confection that had been popularized under Napoleon.

"He had inventor syndrome," Giovanni says. "He would wake up at any hour, go to the laboratories and right in the middle of the night would wake up his wife, saying, 'Taste this. This is a great recipe.' "

Giandujot was selling "as fast as [Pietro] could make it," writes Gigi Padovani in his 2014 Ferrero biography, *Nutella World*. So Pietro teamed with his brother, also named Giovanni, who had a background wholesaling food, and they formed Ferrero in 1946.

Pietro barely saw the business take off before he died of a heart attack in 1949, at age 51. But the groundwork had been laid. That same year Ferrero launched a more spreadable version of Giandujot, which eventually became Supercrema, the precursor to Nutella.

With some clever tricks, the family extended Supercrema's appeal. They sold it in receptacles like jars and pots so penny-pinched customers could reuse the containers. Rather than distribute it through wholesalers, the company used an army of sales reps who went directly to stores, helping keep prices low.

Then came another early death. In 1957, at age 52, Giovanni suffered a fatal heart attack. The company bought the stake inherited by his widow. Just 33 years old, Michele was thrust into command.

If any one person deserves credit for Ferrero's global expansion, it's Michele. Just before his father's death, he persuaded his relatives to enter the German market. The company converted former Nazi missile factories and began churning out sweets. It found a quick foothold with a cherry-liquor-filled chocolate called Mon Chéri, which it introduced in 1956. The Germans were hooked.

Next came expansion to Belgium and Austria and soon after to France. Ferrero blitzed new markets with ads billing the high energy content and healthfulness of its sweets. (Such messaging later got the company into trouble in the U.S., where it settled a false-advertising lawsuit for $3.1 million in 2012, in part over calling Nutella "an example of a tasty yet balanced breakfast." It denied wrongdoing.)

In 1962, as Italy was emerging from postwar ruin, Michele decided to upgrade the quality of his Supercrema. The country could finally afford real chocolate, so he added more cocoa and cocoa butter to the mix. Then, when the Italian government moved to regulate the use of superlatives in advertising—potentially putting the name Supercrema in peril—he chose to rebrand. His team pondered a label that would evoke the flavor of hazelnuts in languages across many markets. Ultimately, they landed on Nutella and began shipping jars under the new moniker in April 1964.

Ferrero's expansion rolled on to Switzerland and Ireland and as far as Ecuador, Australia and Hong Kong. New products were introduced at a steady clip: the Kinder line in 1968, Tic Tac in 1969, Ferrero Rocher pralines in 1982. By 1986, annual sales reached 926 billion lira, about $1.5 billion in current dollars.

As the company grew, Michele left nothing to chance. In one case, he filed a patent for Mon Chéri in Arabic to thwart knockoffs, and from his home in Monaco he often popped into retail stores to sample competitors' products. Where diligence wasn't enough, he turned to faith, installing statues of the Madonna of Lourdes to watch over Ferrero factories around the globe.

By the time he handed the reins to his sons in 1997, the once tiny operation had become a heavyweight with roughly $4.8 billion in annual sales.

Hazelnuts cascade onto Ferrero Rocher pralines in Alba, Italy. The plant produces 1,100 tons of sweets every day.

PRACTICALLY FROM BIRTH, Giovanni Ferrero was groomed to be chocolate royalty. In the late 1970s he and his brother were shipped off to a Belgian boarding school, ostensibly to protect them from Italy's Years of Lead, in which high-profile figures (including John Paul Getty III and Italy's former prime minister Aldo Moro) were kidnapped for ransom. But their father had an additional motivation. He knew that Europe was quickly moving toward a single market, and he needed heirs comfortable anywhere on the continent.

"It was the first historical age of Ferrero being a European company. Brussels was at that time the head of the European integration process," Giovanni recalls. So off the boys went. "Personal was always subordinate to the company," he says.

Giovanni studied marketing in the U.S., then started work at Ferrero in the 1980s. His first assignment placed him with Tic Tac in Belgium. Later he moved to a managerial role in Germany before learning business development in Brazil, Argentina, Mexico and the U.S.

Along the way Giovanni mastered the technical minutiae needed to run the firm. He now speaks in streams of corporate jargon ("dimensional thresholds," "growth momentum," "focalization") inflected with arcane data. Still, sales and marketing were a more natural fit for him. Thin, well-dressed and with a disarming giggle, he has more the air of a game-show host than a billionaire factory owner. He is also the author of seven novels, many of which are set in Africa. When the topic comes up, he darts off to collect a copy of his latest, *The Light Hunter,* which is dedicated to his father.

Giovanni's creativity made him an effective counterpart to his brother, Pietro, who gravitated to operations. Together, in 1997, they took over as CEO from their father, who remained chairman. For the next decade and a half, they focused on boosting Ferrero's in-house brands.

But in 2011, while biking in South Africa, Pietro died of a heart attack, the same fate as his grandfather and great-uncle, leaving his wife, three children and Ferrero behind. Giovanni was forced to run day-to-day affairs by himself. "[It] was a big discontinuity," he says. Four years later, Michele died, too, at age 89. More than 10,000 people reportedly attended his funeral in Alba.

The deaths sparked numerous changes at Ferrero. To start, the business, which Michele had owned outright, was divided among the family. He left the majority to Giovanni, since he felt that consolidated ownership would offer more stability. The rest went to Pietro's young heirs, whose stakes remain in trust. Ferrero's nominal president, Maria Franca Fissolo—Michele's onetime secretary and later his wife —received no shares, though she inherited other assets and is now worth an estimated $2.1 billion.

Despite his massive windfall, Giovanni was overwhelmed. "You have a lot of pressure," he says. He spent more than two years juggling dual roles as CEO and chairman and was left with little time to address corporate strategy. "You get dragged down by the nitty-gritty," he groans. Lapo Civiletti's appointment as CEO in September 2017 made him the first outsider to hold the role.

With Civiletti minding the shop, Giovanni is concentrating on making acquisitions, which his father had fiercely resisted. When asked what his dad would think of the buying spree, he laughs: "I am 53. I have already totally freed myself."

TODAY FERRERO'S NERVE center is in Luxembourg. Thanks to friendly taxes, the tiny state is a buzzing hub of global enterprise. It's a stark contrast to life in sleepy Alba, a metaphor, perhaps, for how Ferrero has changed. By virtue of its ownership it's still technically a family business. Yet Giovanni is really running a multinational, with 25 factories scattered around the world—and a mandate to expand. "I feel like we are duty-bound to grow," he says.

He elaborates, with characteristic wonkishness: "We are in love with a growth algorithm of 7.33 periodic because, organic or nonorganic, that would double the company in a ten-year time horizon."

Translation: Giovanni's plan is to increase revenues by at least 7.33% per year in order to double turnover in a decade. Ferrero's native product lines probably couldn't expand that quickly, so Giovanni is buying sales to compensate.

Hence the acquisition of Thorntons in 2015. At the time, the British chocolatier was seen as a declining business. Yet Giovanni evidently saw value there. He next bought U.S. candy makers Fannie May ($115 million in May 2017) and Ferrara, maker of Red Hots and Trolli gummies (about $1.3 billion, in December). Finally came the Nestlé deal, including its Crunch, Raisinets and Laffy-Taffy labels, for $2.8 billion. It was an ironic twist of fate. Two years earlier, after Michele's death, rumors swirled that Nestlé might acquire Ferrero, which Ferrero strongly denied.

If his goal is simply scale, Giovanni is succeeding. Following the Nestlé purchase, Ferrero became the world's third-largest confectioner, according to data from Euromonitor. And he's not finished buying. Giovanni's theory is that, as with the beer market, a few key players will come to dominate the confections trade. The rest will be relegated to niche status. "Somebody out there will [emerge] as a front-runner," he says.

Some outsiders are skeptical of his plan. The obvious criticism is that unlike his father, who spurred growth through innovation, Giovanni is just buying his way to scale. And Ferrero is diving into the North American market just as consumers are shifting to more premium sweets and healthier foods. Fintan Ryan, an analyst at Berenberg Bank, calls Nestlé's former products "very much mass-market, high-sugar, unhealthy confectionery," though he notes that they weren't "given TLC" by the Swiss firm. Jean-Philippe Bertschy of Vontobel is less charitable. Nestlé was "a weakish business which lost market share year after year." Ferrero, he says, "has made some questionable acquisitions."

Lucky for Giovanni, he has a comfortable margin of error. If Ferrero's financials are in line with those of its main competitors, it likely throws off more than $1 billion a year in profit. Even with the ongoing spending spree, it has not taken on a lot of debt.

And there are other, clearer bright spots. Ferrero launched its popular Kinder Joy eggs in the U.S. last year. They had been banned as a choking hazard, since the chocolate shells contained a hidden plastic toy. After modifications, the product got the FDA's blessing and is already "overperforming expectations," Giovanni says. Ferrero has unveiled other new products of late, mainly derivatives of existing lines, like Tic Tac gum.

At Ferrero's Alba factory, jars of Nutella are lined up for boxing. The company claims 150 million families regularly eat the chocolaty spread for breakfast.

The company is also on safer ground with its hazelnut business. A few years ago it purchased two of the world's biggest hazelnut traders, Oltan Group in Turkey and the Italian Stelliferi Group, and is further investing in plantations in Australia, the Balkans and South America in a bid to increase yields and availability throughout the year. Ferrero, which buys about a third of the planet's hazelnuts, is also now the world's largest hazelnut supplier.

That statistic underscores the company's spiraling size. In just three generations, Pietro's tiny shop has become a behemoth that sells goods in more than 160 countries, employs 40,000 people and makes 365,000 tons of Nutella per year. Giovanni waves all this away: "Well, it's a promising start."

THE NEXT TYCOONS
A GENERATION EMERGES

The House of Thompson

Bill Booth took over Thai Silk after the mysterious disappearance of its founder. Now his son, Eric, is ramping up plans to take the company global.

BY RON GLUCKMAN

A half-century after Jim Thompson vanished in the Malaysian jungle, the American spy turned Thai silk baron lives on—and not only in the films and books that continue to appear, rehashing or offering new theories on his perplexing disappearance. Eaten by tigers? Killed by the CIA or Communist rebels? Or did the 61-year-old simply take a misstep and tumble into a ravine?

It's one of Southeast Asia's great mysteries, about one of its most colorful characters. Thompson lived large, an American bon vivant in old Siam, where his significant art collection, influential circle of friends and fabulous parties earned him a Great Gatsby-style reputation. Yet he was also an astute entrepreneur who helped revive the silk trade in Southeast Asia. And now he's going global.

That's the vision of father and son Bill and Eric Booth, whose Thai Silk Co. is Thompson's legacy. With three dozen stores across Thailand, 2,600 employees and $90 million in annual sales, it's a Thai institution. Jim's estate in Bangkok, where several old wooden houses overlook ponds and display his art, has become the famed Jim Thompson House, a cultural


LUKE DUGGLEBY/REDUX PICTURES FOR FORBES

"He's the future, I'm the past": Bill Booth and son, Eric, at the Jim Thompson House in Bangkok.

Tinker, tailor, soldier, spy: Jim Thompson back in the day, before his 1967 disappearance.

center that is one of Thailand's most-visited tourist sites.

But will success in Thailand translate overseas? The first store abroad opened in Singapore in 1999. The company expanded beyond Asia with a German distribution office in 2007 and one in Paris in 2013. Next, Eric, the assistant managing director, spent several years building an American operation based in Atlanta. But now he wants to accelerate that international expansion. "We're one of the most famous brands in Thailand," he says. "But abroad, no one really knows us."

In 2016 the Booths launched a five-year strategy to change that and installed a new chief executive, Gerald Mazzalovo. "Jim Thompson can be the first global luxury brand from Thailand," he says confidently. He's a lifelong luxury specialist who ran Salvatore Ferragamo, Loewe, Bally, Robert Clergerie and other luxury outfits. He's the first outside CEO for a Thai company that has operated for decades as a family firm.

Outside Thailand most people know Thai Silk for its swashbuckling founder. Hailing from Greenville, Delaware, Thompson attended Princeton University and became an architect. Then, during World War II, he served in the Office of Strategic Services, a precursor of the Central Intelligence Agency. He excelled at shadowy operations in Europe and Africa, then was sent to Asia to prepare for the battle to liberate Thailand from Japanese occupation.

Afterward, he fell out with Cold War hawks. He sided with Asian independence movements, but Washington supported anticommunist regimes, such as in Vietnam. A disillusioned Thompson decided to become a textile merchant—his father had been a textile manufacturer—and started his company in 1947. But he remained an outspoken critic of Cold War policies, and many speculate that the CIA or its Asian allies silenced him in Malaysia at the height of the Vietnam War.

Thompson disappeared on March 26, 1967, and had no children. His stake in the company went to a nephew; he and other investors put Bill, who was a top staffer, in charge after Thompson's deputy died in 1971. Just like Thompson, Bill had been dispatched to Thailand by the U.S. military. He arrived with the army in 1959, then returned to Bangkok after his discharge two years later.

Thompson is widely venerated for reviving the craft of silk weaving in the region, which has mostly been replaced by mass production. "Handweaving has become an endangered species here, and sadly that's the case everywhere," says Carol Cassidy, who runs Lao Textiles in Vientiane and is among the region's top experts on silk and weaving. "Jim Thompson always had a great sense of quality. He definitely raised the bar for silk and crafts."

But it's Bill, the chairman and managing director, who's built the business over the last 45 years, opening shops in high-profile locations such as airports, hotel arcades and malls. He expanded production and broadened the catalog of finished items and accessories. He shifted much of the operation up-country to Isan, closer to the weavers and silk farms, where land and other costs are far lower than in Bangkok. Thai Silk has 1,600 acres in Isan and operates a model farm that's open part of the year to the public. Popular with school groups, it showcases not only Thai silk history but the art and culture of Isan, the country's largest province. "Jim Thompson wouldn't recognize all of this," he jokes.

In recent years Bill has passed more of the decision-making to Eric, 48, his only son, who joined the company in 1998 and has focused on expanding the international business. "He's the future; I'm the past," quips Bill when we meet in his office, decorated with Thai artifacts and fabric. He turns 80 in September and still works every day, dressed in dapper suits. Charmingly humble, he displays a folksy good humor that reflects his simple roots in the Pacific Northwest farmland of Yakima, Washington. More than once he suggests that his rise to the top was due to luck rather than skill or smarts: "I've always said, you have to be lucky or smart. I've always been lucky."

The way he tells it, his return to Bangkok as a 24-year-old silk trader was a disaster. He exhausted his funds within a year and was headed home in failure. He sought out Thompson to try to

Dyed yarn at Thai Silk factory in Pak Tong Chai is threaded onto spools to be used in producing fabric.

RON GLUCKMAN FOR FORBES (BOTTOM)

sell his remaining silk stock. "Someone had just left his company," recalls Bill. "He said, 'You speak some Thai, and you know silk.' He hired me on the spot." When he mentions the date, we both laugh. It was April 1—April Fools' Day.

He says their styles were completely different. "I saw Jim every day. It was a small company then, probably 50 people, and only a few foreigners," he says. "Jim was high up there; he knew royalty, everyone. I was in a totally different crowd, you know, the sports club." In reality, though, it's hard to imagine a boss who would be a better steward for Thompson's vision. "All the time," he concedes, "we think: 'What would Jim do?'"

From the start, Thompson was one of Thailand's biggest boosters, promoting tourism and supporting community charities. And, of course, Thai Silk would thrive if Thailand thrived. Today tourists visit the Jim Thompson House and watch cocoons being turned into the silk that's woven into products they can buy at the showroom on-site. Then they can dine at a Thai restaurant—there are six Jim Thompson food outlets in Thailand and one in Singapore. Two more are franchise operations in Japan.

Upstairs is an art gallery, fitting since Thompson was a passionate collector of art and antiques from across Southeast Asia. Yet these are contemporary works. Credit Eric, who walked me through the gallery. He's been collecting art since 1992 and has between 250 and 300 pieces, he says. Collecting runs in the family: His Thai mother, the late Patsri Bunnag, was a notable fashion collector, and after his parents separated, she married French art collector Jean Michel Beurdeley. "It's an addiction," says Eric, smiling, "but a good addiction." Two years ago, Eric and Beurdeley opened Maiiam Contemporary Art Museum in Chiang Mai. Besides works from the family collection, the museum hosts Thai exhibits that are often provocative and address pressing concerns.

One concern Thompson had right at the beginning was for Thailand's last traditional weavers. He found some living in the Ban Krua neighborhood, so he started the company and built his house there. He hired the weavers and gave them shares in Thai Silk; the original weaving families still own more than 5% of the privately held company. (The Booths decline to disclose the size of their stake or identify other shareholders.)

Thai Silk invests heavily in research and development, crucial for any company banking on trend-sensitive fabric and fashion. But the investment extends all the way back to the farms—to the worms, in fact. Most of the company's silk comes from Isan, and the majority from worm stocks it helped to develop. These were bred to be more resilient and easier for farmers to raise, producing silk threads with the strength required for high-quality fabric. The most expensive products typically are handwoven. "You can feel the texture, the history in everything," says Eric.

On a visit to Isan, Tamrong Sawatwarakul, manufacturing director for the silk company, shows me around the Jim Thompson Farm and the production facilities half an hour away. A vast complex has grown incrementally, with facilities and machinery added as the company expanded into new markets and added more complex printing technology. Still, the company occupies just a tiny niche in the world silk market. China has dominated the silk trade for centuries. Bill estimates that 90% of production comes from China, with India adding 5%. "Thailand silk may account for 1%," he says. "That's why what we are doing now is so important. We really have to move up, position ourselves at the luxury level. That's the only way to succeed outside of Thailand."

The company markets the unique feel of Thailand's silk and its handcrafted products. "What Jim discovered in the 1940s was that silk in the markets here was different from silk available from China and Japan," says Eric. "It was also hand-reeled, handwoven and hand-dyed. And uneven. That gave it this unique texture." Long ago the market moved to mass production and consistency, but these days there is more interest in artisanal products, he adds. "That's our advantage."

In five years, he says, the company will add stores in Paris, London, Hong Kong, Singapore and Shanghai. A New York store opened late last year to cater to the wholesale trade, largely architects and interior designers. Eric travels regularly and has ramped up the wholesale business, supplying fabric to designers and distributing in department stores. And Jim Thompson restaurants will expand globally as well. "The future of Jim Thompson is overseas," he says.

Maiiam Contemporary Art Museum in Chiang Mai, opened in 2016.

Will it work? Finding local examples is difficult. Thai brands Harnn and Thann have expanded overseas. Both make lotions and creams that benefit from the country's association with spas and massage. But there aren't any real success stories at the luxury level for retail. And going global may present surprising challenges. "Jim Thompson is already such a powerful brand," says Catherine Monthienvichienchai, strategy director for branding specialist QUO in Bangkok. "They have great products and a fantastic story with their history and the story of their founder." Being seen as a Thai company with authentic woven goods is an asset with visitors but may not have the same attraction overseas. "They may need to shake off some of this association, show they aren't tourist-driven."

Concedes Bill: "This is something we probably should have done earlier. It just makes sense. How many more stores can we open in Thailand?" And it's really just the continuation of Thompson's work from 70 years ago, showing the world the luster of Thai silk. "His DNA is in everything we do."

V3 GROUP:
RAMPING UP FOR FUTURE GROWTH

The Singapore specialized retailer, with its deep understanding of consumers, is developing new and existing brands, both offline and online, as it transforms into Asia's leading luxury lifestyle and wellness group.

Beginning its journey nearly 40 years ago in 1979 as a small household-goods company, V3 Group is now a global lifestyle and wellness business with a footprint in 24 countries.

Helmed by Chairman and Chief Executive Officer, Ron Sim, the group has leveraged its deep consumer and retail experience in five core markets—Singapore, Hong Kong, Taiwan, Malaysia and China—developing exciting and dynamic platforms to grow existing and new brands in both online and offline channels.

The entrepreneur extraordinaire kicked off his regional expansion plans after the recession in 1985, when it was clear to Mr. Sim that expansion was necessary to survive and thrive. His resulting successes are underpinned by a sharp business acumen, deep operational skills and strong financial capabilities.

These core capabilities have powered the group from the early phenomenal success of its flagship line of award-winning OSIM premium products, and also have won accolades for its founder, including Ernst & Young's prestigious "Entrepreneur of The Year" in 2003, Singapore-based *The Business Times* "Businessman of the Year" in 2003 and "Best Chief Executive Officer" by the Singapore Corporate Awards in 2012.

V3 Group is the realization of Mr. Sim's vision of building Asia's leading luxury group across the three focus areas of its Lifestyle, Wellness and Aspirational brands. Expanding through a series of acquisitions over the past 13 years, V3 Group is now poised to accelerate its organic growth trajectory by extending its leadership in its core markets and penetrating new markets globally while broadening its portfolio of brands through acquisitive growth.

The group's operations currently span more than 670 stores in 24 countries, and features an extensive omnichannel network that provides big data analytical capabilities across all its brands.

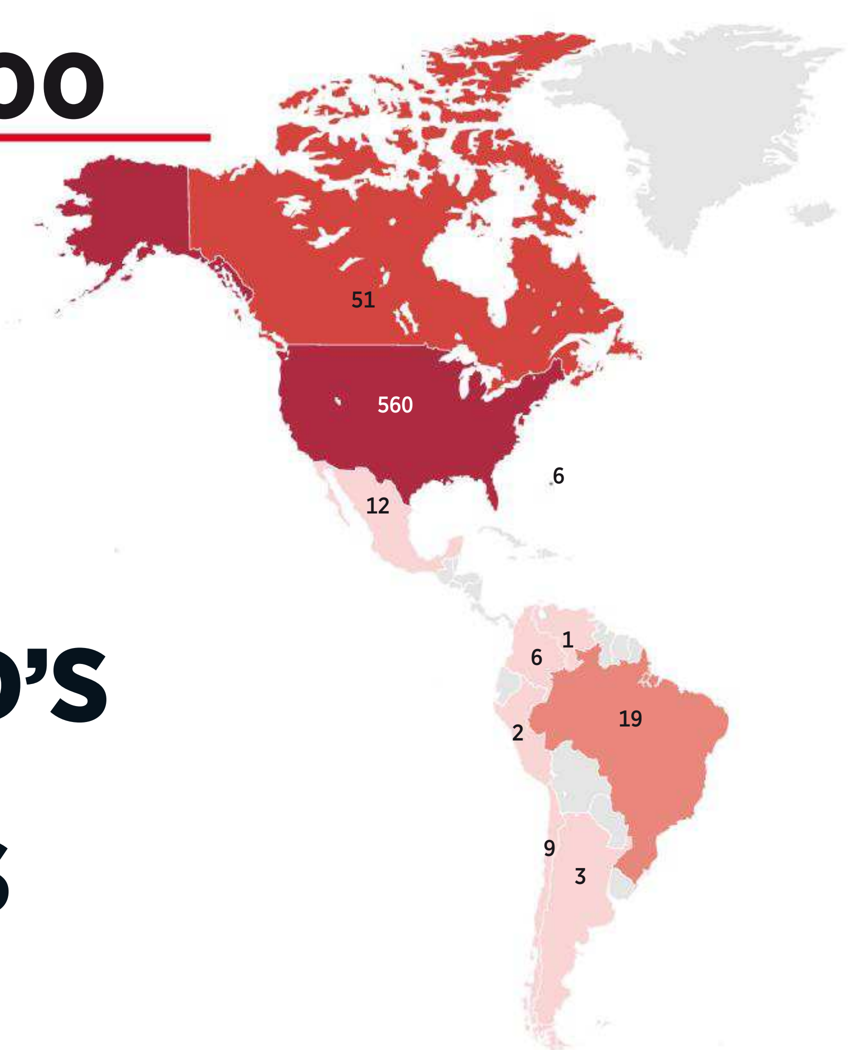
OSIM will continue to build on its dominance in the lifestyle category by building and growing its successful operations in China, the world's second-largest economy. Apart from OSIM in the lifestyle category, V3 Group's portfolio also includes TWG Tea. The label has 68 stores worldwide and is recognized as one of the finest luxury tea brands in the world. The group's holdings also include ONI Global, which has exclusive franchise rights to the GNC brand in Singapore, Malaysia and Taiwan. Together with its own developed brand LAC, Xndo and Face On Clinic, ONI Global focuses on helping customers improve their physical, mental and emotional wellness. V3 Group most recently invested in Singapore fixtures manufacturer Futuristic, which produces high-quality store fixtures for leading global brands.

Going forward, a new collaborative strategy will drive the next wave of growth. Tapping on Mr. Sim's deep experience, V3 Group will identify and work with founders and partners of small and medium-sized enterprises who share his vision.

"Besides creating and making a difference in your own business, it is crucial to identify and partner with like-minded stakeholders and entrepreneurs to bring about collaborative success. We have a wealth of experience operating around the world, and we can leverage on this to build partnerships that will further extend the collective leadership position of V3 Group as well as our trusted partners across the Lifestyle, Wellness and Aspirational categories," says Mr. Sim.

This philosophy ensures the group is geared up for continued success across all its brands and operations for many years to come.

Ron Sim, Chairman and Chief Executive Officer of V3 Group



THE WORLD'S BIGGEST COMPANIES

BY ANDREA MURPHY

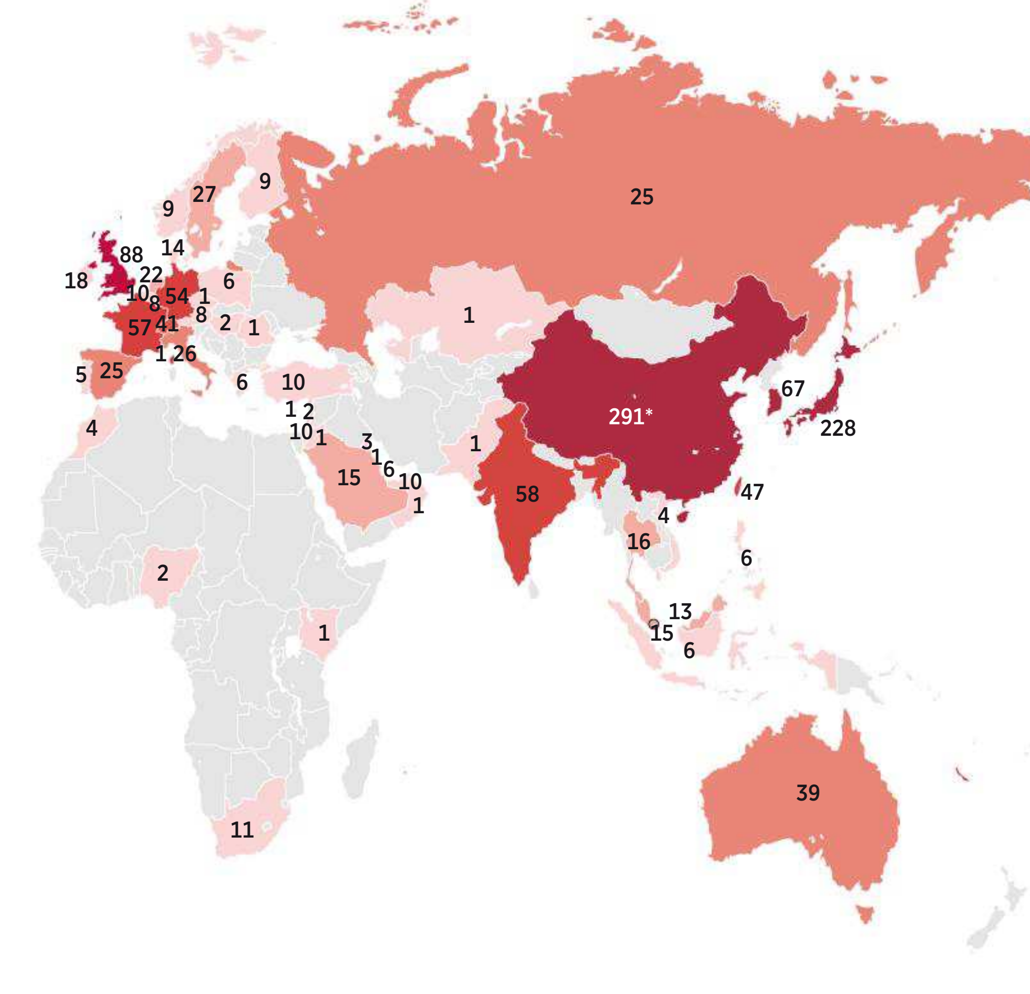
Chinese companies extend their streak at the top of the Global 2000, our annual ranking of the biggest publicly traded corporations in the world. For the sixth consecutive year the Industrial and Commercial Bank of China and the China Construction Bank take the No. 1 and 2 spots. Overall, China-Hong Kong accounts for 291 of the companies on the list, up from 262 in 2017. On our inaugural list in 2003, there were 43 firms from China-Hong Kong and only 3 in the top 100. PetroChina, ranked No. 30 this year, was the highest-ranked Chinese company in 2003 at No. 54. The Asia-Pacific region leads with 792 companies, 40% of the entire list. Taken as a group, the Global 2000 accounts for $39.1 trillion in sales, $3.2 trillion in profit, $189 trillion in assets and $56.8 trillion in market value. All metrics are up double digits year-over-year, with profits up an impressive 28%.

Reporting by Prisca Ang, Jane Ho, Joyce Huang.

THE TOP 100

1	●	ICBC	CN
2	●	CHINA CONSTRUCTION BANK	CN
3	▲	JPMORGAN CHASE	US
4	▼	BERKSHIRE HATHAWAY	US
5	▲	AGRICULTURAL BANK OF CHINA	CN
6	▲	BANK OF AMERICA	US
7	▼	WELLS FARGO	US
8	▲	APPLE	US
9	▼	BANK OF CHINA	CN
10	▲	PING AN INSURANCE GROUP	CN
11	▲	ROYAL DUTCH SHELL	NE
12	▼	TOYOTA MOTOR	JA
13	●	EXXON MOBIL	US
14	▲	SAMSUNG ELECTRONICS	KO
15	▼	AT&T	US
16	▲	VOLKSWAGEN GROUP	GE
17	▲	HSBC	UK
18	●	VERIZON COMMUNICATIONS	US
19	▲	BNP PARIBAS	FR
20	▼	MICROSOFT	US
21	▲	CHEVRON	US
22	▼	ALLIANZ	GE
23	▲	ALPHABET	US
24	▼	WALMART	US
25	▼	CHINA MOBILE	HK
26	●	TOTAL	FR
27	▼	SINOPEC	CN
28	▲	UNITEDHEALTH GROUP	US
29	▼	DAIMLER	GE
30	▲	PETROCHINA	CN
31	▲	BANCO SANTANDER	SP
32	▲	CHINA MERCHANTS BANK	CN
33	▼	AXA GROUP	FR
34	▼	COMCAST	US
35	▲	CHINA LIFE INSURANCE	CN
36	▲	BP	UK
37	▼	MITSUBISHI UFJ FINANCIAL	JA
38	▼	BANK OF COMMUNICATIONS	CN
39	▼	SOFTBANK	JA
40	▲	BMW GROUP	GE
41	▲	ANHEUSER-BUSCH INBEV	BE
42	▲	ROYAL BANK OF CANADA	CA
43	▼	GAZPROM	RU
44	▲	PFIZER	US
45	▼	ITAÚ UNIBANCO	BR
46	▼	NIPPON TELEGRAPH & TEL	JA
47	▲	SBERBANK	RU
48	▼	NESTLE	SZ
49	▲	INTEL	US
50	▲	MORGAN STANLEY	US
51	▼	SIEMENS	GE
52	▲	BOEING	US
53	▲	AMAZON.COM	US
54	▲	TD BANK GROUP	CA
55	▼	PROCTER & GAMBLE	US
56	▼	ING GROUP	NE
56	▼	POSTAL SAVINGS BANK OF CHINA	CN
58	▲	HONDA MOTOR	JA
59	▲	SUMITOMO MITSUI FINANCIAL	JA
60	▼	GOLDMAN SACHS GROUP	US

ASIAN COMPANIES ARE IN RED TYPE.



*INCLUDES HONG KONG.

61	▲	INTESA SANPAOLO	IT
62	▲	INDUSTRIAL BANK	CN
63	▼	NOVARTIS	SZ
64	▲	GLENCORE INTERNATIONAL	SZ
65	▼	BANCO BRADESCO	BR
66	▲	PRUDENTIAL	UK
67	▼	FORD MOTOR	US
67	▼	IBM	US
69	▼	CVS HEALTH	US
70	▼	SHANGHAI PUDONG DEVELOPMENT	CN
71	▼	COMMONWEALTH BANK	AU
72	▼	WALT DISNEY	US
73	▼	PRUDENTIAL FINANCIAL	US
73	▲	ROSNEFT	RU
75	▲	ENEL	IT
76	▼	CITIC PACIFIC	HK
77	▲	FACEBOOK	US
78	▲	METLIFE	US
79	▼	DEUTSCHE TELEKOM	GE
80	▲	SAIC MOTOR	CN
81	▲	ALIBABA	CN
82	▲	BASF	GE
83	▲	RELIANCE INDUSTRIES	IN
84	▼	CHINA STATE CONSTR. ENGINEERING	CN
85	▼	CHINA CITIC BANK	CN
86	▲	SONY	JA
87	▼	WESTPAC BANKING GROUP	AU
88	▼	BANK OF NOVA SCOTIA	CA
88	▲	BRITISH AMERICAN TOBACCO	UK
90	▼	CHINA MINSHENG BANKING	CN
91	▲	EQUINOR[1]	NO
92	▲	AIA GROUP	HK
93	▼	ROCHE	SZ
94	▲	LLOYDS BANKING GROUP	UK
95	▲	ENI	IT
96	▲	CHARTER COMMUNICATIONS	US
97	▼	NISSAN MOTOR	JA
98	▲	LUKOIL	RU
99	▼	UNITED TECHNOLOGIES	US
100	▼	BAYER	GE

COUNTRY CODES

ARGENTINA	AR
AUSTRALIA	AU
AUSTRIA	AS
BAHRAIN	BN
BELGIUM	BE
BERMUDA	BU
BRAZIL	BR
CANADA	CA
CHILE	CH
CHINA	CN
COLOMBIA	CO
CYPRUS	CY
CZECH REPUBLIC	CZ
DENMARK	DE
EGYPT	EG
FINLAND	FI
FRANCE	FR
GERMANY	GE
GREECE	GR
HONG KONG	HK
HUNGARY	HU
INDIA	IN
INDONESIA	ID
IRELAND	IR
ISRAEL	IS
ITALY	IT
JAPAN	JA
JORDAN	JO
KAZAKHSTAN	KZ
KENYA	KE
KUWAIT	KU
LEBANON	LE
LUXEMBOURG	LU
MALAYSIA	MA
MEXICO	MX
MONACO	MC
MOROCCO	MO
NETHERLANDS	NE
NIGERIA	NI
NORWAY	NO
OMAN	OM
PERU	PE
PHILIPPINES	PH
POLAND	PL
PORTUGAL	PO
QATAR	QA
RUSSIA	RU
SAUDI ARABIA	SU
SINGAPORE	SI
SOUTH AFRICA	SA
SOUTH KOREA	KO
SPAIN	SP
SWEDEN	SW
SWITZERLAND	SZ
TAIWAN	TA
THAILAND	TH
TURKEY	TU
UNITED ARAB EMIRATES	AE
UNITED KINGDOM	UK
UNITED STATES	US
VENEZUELA	VZ
VIETNAM	VE

METHODOLOGY

THE FORBES GLOBAL 2000 IS A LIST OF THE WORLD'S LARGEST PUBLIC COMPANIES AS MEASURED BY REVENUES, PROFITS, ASSETS AND MARKET VALUE AS OF MAY 11, USING DATA FROM FACTSET RESEARCH SYSTEMS. WE WEIGHT THE FOUR METRICS EQUALLY TO COME UP WITH A COMPOSITE SCORE. NOT INCLUDED ARE EMPLOYEE- OR COOPERATIVE-OWNED ENTITIES SUCH AS HUAWEI OF CHINA AND FONTERRA OF NEW ZEALAND. COMPANIES STRUCTURED AS LIMITED PARTNERSHIPS, SUCH AS SOME LARGE PRIVATE EQUITY FIRMS, ARE EXCLUDED FOR ACCOUNTING INCONSISTENCIES. LATER ACTIVITY NOT REFLECTED.

[1]FORMERLY STATOIL

GLOBAL **2000**

COMPANY	COUNTRY CODE	2015 RANK	RANK CHANGE
360 SECURITY TECHNOLOGY	CN	1574	●
3I	UK	1252	▼
3M	US	214	▼
77 BANK	JA	1618	▲
AAC TECHNOLOGIES	CN	1296	▲
AAREAL BANK	GE	1748	▼
ABB	SZ	264	▼
ABBOTT LABORATORIES	US	421	▼
ABBVIE	US	137	▲
ABENGOA	SP	1480	●
ABERTIS	SP	766	▼
ABIOMED	US	1959	▼
ABITARE	IT	833	●
ABU DHABI COMMERCIAL BANK	AE	930	▼
ABU DHABI ISLAMIC BANK	AE	1489	▼
ACCENTURE	IR	288	▼
ACCIONA	SP	1643	▼
ACCOR	FR	1431	▲
ACTIVISION BLIZZARD	US	997	▼
ADANI PORTS & SP EC ZONE	IN	1605	▼
ADECCO	SZ	866	▼
ADIDAS	GE	457	▲
ADIENT	IR	1567	▼
ADOBE SYSTEMS	US	627	▲
ADVANCE AUTO PARTS	US	1461	▼
ADVANCED INFO SERVICE	TH	1243	▼
ADVANCED MICRO DEVICES	US	1867	▲
ADVANCED SEMICONDUCTOR	TA	1083	▼
AECOM TECHNOLOGY	US	1479	▼
AEGON	NE	277	▲
AENA	SP	846	▲
AEON	JA	614	▲
AERCAP	IR	1025	▼
AEROFLOT-RUSSIAN AIRLINES	RU	1932	▼
AEROPORTS DE PARIS	FR	1105	▲
AES	US	1142	▼
AETNA	US	167	▼
AFFILIATED MANAGERS	US	1748	▼
AFLAC	US	195	▲
AGEAS	BE	657	▲
AGILE PROPERTY	CN	1015	▲
AGILENT TECHNOLOGIES	US	1730	▼
AGL ENERGY	AU	1172	▲
AGNC INVESTMENT	US	1028	▲
AGRI BANK OF CHINA	CN	5	▲
AHLI UNITED BANK	BN	1430	▼
AIA (INSURANCE)	HK	92	▲
AIR CANADA	CA	1022	▲
AIR FRANCE-KLM	FR	1128	▼
AIR LEASE	US	1683	●
AIR LIQUIDE	FR	257	▼
AIR PRODUCTS & CHEMICALS	US	695	▼
AIRBUS	NE	101	▲
AIRPORTS OF THAILAND	TH	1237	▲
AISIN SEIKI (CONSUMER DUR)	JA	501	▼
AJINOMOTO (FOOD & DRINK)	JA	1144	▲
AKBANK	TU	750	▼
AKZO NOBEL	NE	658	▼
AL RAJHI BANK	SU	563	▼
ALASKA AIR	US	1355	▼
ALCOA	US	1266	▲
ALEXANDRIA REAL ESTATE EQ	US	1921	●
ALEXION PHARMACEUTICALS	US	1234	▲
ALFA	MX	1377	▼
ALFRESA (PHARMACEUTICALS)	JA	1524	▼
ALIBABA	CN	81	▲
ALIGN TECHNOLOGY	US	1767	●
ALINMA BANK	SU	1338	▲
ALL NIPPON AIRWAYS	JA	640	▲
ALLAHABAD BANK	IN	1882	▼
ALLEGHANY	US	1442	▼
ALLERGAN	IR	582	▼
ALLIANCE DATA SYSTEMS	US	874	▲
ALLIANT ENERGY	US	1706	▼
ALLIANZ	GE	22	▼
ALLIED IRISH BANKS	IR	759	▼
ALLSTATE	US	185	▲
ALLY FINANCIAL	US	602	▼
ALMARAI	SU	1491	▼
ALPHA BANK	GR	1626	▼
ALPHABET	US	23	▲
ALPS ELECTRIC	JA	1977	●
ALROSA	RU	1366	▼
ALSTOM	FR	1280	▲
ALTICE	NE	706	▼
ALTRIA	US	217	▼
ALUMINUM CORP OF CHINA	CN	946	▼
AMADEUS IT	SP	985	▲
AMAZON.COM	US	53	▲
AMBANK	MA	1911	▼
AMCOR (MATERIALS)	AU	1161	▲
AMEREN	US	983	▼
AMÉRICA MÓVIL	MX	329	▲
AMERICAN AIRLINES	US	325	▼
AMERICAN ELECTRIC	US	346	▲
AMERICAN EQUITY INVESTMENT	US	1670	▼
AMERICAN EXPRESS	US	119	▼
AMERICAN FINANCIAL	US	990	▼
AMERICAN INTL	US	452	▼
AMERICAN NAT INSURANCE	US	1689	●
AMERICAN TOWER	US	571	▲
AMERICAN WATER WORKS	US	1347	▼
AMERIPRISE FINANCIAL	US	401	▼
AMERISOURCEBERGEN	US	431	▼
AMETEK	US	1361	▲
AMGEN	US	215	▼
AMOREPACIFIC	KO	1847	▼
AMP (DIVERSIFIED FINANCIAL)	AU	762	▲
AMPHENOL	US	1018	▼
AMTRUST FINANCIAL SERVICES	US	1762	▼

▲ UP ▼ DOWN
● UNCHANGED ● NEW

TOMORROWLAND

If smart cities are the future of cities, then Singapore blue-chip Keppel is signing up.

BY JANE A. PETERSON

Engineering and construction heavyweight Keppel Corp. is celebrating its golden anniversary with the slogan "Fifty years: Shaping the future," and it boasts 21,000 employees in 24 countries focused on that task. But it's a new Keppel unit with just 10 employees that may end up shaping an outsized portion of that future.

Keppel formed the unit, Keppel Urban Solutions, last November to help pitch its experience as a master developer and to harness its range of skills. Started as a local shipyard, the Singapore conglomerate now positions itself as an international player in building the "smart" cities of the future in Asia and elsewhere. "Urbanization is a mega-trend," says Chief Executive Loh Chin Hua, breaking into a confident smile at the company's sky-high headquarters in Keppel Bay Tower overlooking the Singapore Straits. He ticks off Keppel's strengths in four sectors—energy, property, infrastructure and asset management—all essential to its city-building vision. "The opportunity is vast."

The unit's inaugural project is Saigon Sports City, which is designed to accommodate 17,000 residents by 2025. It's eyeing foreign investors and Vietnam's growing middle class for apartment sales. Bulldozers are now flattening a 64-hectare site in district 2 of Ho Chi Minh City, and groundbreaking is set for late this year. "We will design, build, stitch it all together—and stay on to own and operate it," says Loh, a former executive of GIC, Singapore's sovereign wealth fund. That marks a shift in strategy for Keppel—formerly it would sell its projects once they were done. Now it will keep them, generating recurring income, a plus for investors.

This city-within-a-city in Vietnam is being built in the shape

MUNSHI AHMED FOR FORBES

"Urbanization is a mega-trend," says CEO Loh Chin Hua at Keppel Bay site.

GLOBAL **2000**

ANADARKO PETROLEUM	US	797	▼
ANALOG DEVICES	US	851	▲
ANDEAVOR	US	429	▲
ANDHRA BANK	IN	1915	▲
ANGANG STEEL	CN	1051	▲
ANGLO AMERICAN	UK	261	▲
ANHEUSER-BUSCH INBEV	BE	41	▲
ANHUI CONCH CEMENT	CN	522	▲
ANNALY CAPITAL MGMT	US	742	▼
ANTA SPORTS PRODUCTS	CN	1622	●
ANTARCHILE	CH	1029	▲
ANTHEM	US	129	▲
ANTOFAGASTA	UK	1236	▲
ANZ (BANKING)	AU	104	▼
AON	UK	630	▼
AOZORA BANK	JA	1676	▼
APACHE	US	858	▲
APPLE	US	8	▲
APPLIED MATERIALS	US	439	▲
APTIV	UK	700	▼
ARAB BANK	JO	1403	▼
ARAB NATIONAL BANK	SU	1123	▲
ARAMARK	US	1112	▲
ARCA CONTINENTAL	MX	1147	▲
ARCELORMITTAL	LU	152	▲
ARCH CAPITAL	BU	1113	▼
ARCHER DANIELS MIDLAND	US	324	▼
ARCONIC	US	1288	▼
ARES CAPITAL	US	1769	▲
ARISTA NETWORKS	US	1511	●
ARISTOCRAT LEISURE	AU	1924	●
ARKEMA	FR	1198	▲
AROUNDTOWN PROPERTY	LU	1257	▲
ARROW ELECTRONICS	US	1185	▼
ARTHUR J. GALLAGHER	US	1086	▲
ASAHI GLASS	JA	919	▲
ASAHI	JA	477	▲
ASAHI KASEI	JA	559	▲
ASHTEAD	UK	1192	▲
ASIAN PAINTS	IN	1882	▼
ASML	NE	451	▲
ASR NEDERLAND	NE	942	▼
ASSA ABLOY	SW	843	▲
ASSOCIATED BANC-CORP	US	1950	▲
ASSOCIATED BRITISH FOODS	UK	542	▲
ASSURANT	US	1340	▼
ASSURED GUARANTY	BU	1964	▼
ASTELLAS PHARMA	JA	613	▼
ASTRAZENECA	UK	213	▼
ASUSTEK COMPUTER	TA	1379	▼
AT&T	US	15	▼
ATHENE	BU	713	▲
ATLANTIA	IT	609	▼
ATLAS COPCO	SW	540	▲
ATMOS ENERGY	US	1720	▲
ATOS	FR	858	▼
ATTIJARIWAFA BANK	MO	1123	▲
AU OPTRONICS	TA	1116	▲
AURUBIS	GE	1564	▲
AUTODESK	US	1660	▲
AUTOLIV	SW	1319	▼
AUTOMATIC DATA PROCESSING	US	373	▼
AUTONATION	US	1447	▼
AUTOZONE	US	862	▼
AVALONBAY COMMUNITIES	US	1023	▼
AVERY DENNISON	US	1953	▼
AVIC CAPITA	CN	1433	▲
AVIS BUDGET	US	1529	▲
AVIVA	UK	171	▲
AVNET	US	1701	▼
AWA BANK	JA	1993	●
AXA	FR	33	▼
AXIATA (TELECOM)	MA	1508	▲
AXIS BANK	IN	635	▼
AYALA	PH	1216	▼
B3	BR	1776	▼
BAE SYSTEMS	UK	466	▼
BAIC MOTOR	CN	1109	▼
BAIDU	CN	300	▲
BAJAJ AUTO	IN	1581	▼
BALL	US	1003	▲
BÂLOISE	SZ	914	▼
BANCA MEDIOLANUM	IT	1509	▼
BANCA MPS	IT	1264	▲
BANCA POPOLARE DI SONDRIO	IT	1756	▲
BANCO BPI	PO	1908	▼
BANCO BPM	IT	831	▲
BANCO BRADESCO	BR	65	▼
BANCO COMERCIAL PORTUGUES	PO	1583	▲
BANCO DAVIVIENDA	CO	1638	▼
BANCO DE CHILE	CH	1708	▲
BANCO DE SABADELL	SP	620	▼
BANCO DO BRASIL	BR	140	▼
BANCO SANTANDER	SP	31	▲
BANCOLOMBIA	CO	761	▼
BANDAI NAMCO	JA	1756	▲
BANGKOK BANK	TH	829	▼
BANK AUDI	LE	1415	▼
BANK CENTRAL ASIA	ID	574	▼
BANK HAPOALIM	IS	932	▼
BANK LEUMI	IS	912	▲
BANK MANDIRI	ID	489	▲
BANK MUSCAT	OM	1655	▼
BANK NEGARA INDONESIA	ID	903	▲
BANK OF AMERICA	US	6	▲
BANK OF BARODA	IN	1218	▼
BANK OF BEIJING	CN	262	▼
BANK OF CHENGDU	CN	1507	●
BANK OF CHINA	CN	9	▼
BANK OF CHONGQING	CN	1303	▼
BANK OF COMMUNICATIONS	CN	38	▼
BANK OF EAST ASIA	HK	828	▲

▲ UP ▼ DOWN
● UNCHANGED ● NEW
ASIAN COMPANIES ARE IN RED TYPE

BANK OF GANSU	CN	1484	NEW
BANK OF GREECE	GR	1860	▼
BANK OF GUIYANG	CN	1301	▼
BANK OF HANGZHOU	CN	1048	▼
BANK OF INDIA	IN	1292	▼
BANK OF IRELAND	IR	962	▼
BANK OF IWATE	JA	1946	▲
BANK OF JIANGSU	CN	437	▼
BANK OF JINZHOU	CN	907	▼
BANK OF KYOTO	JA	1604	▲
BANK OF MONTREAL	CA	139	▼
BANK OF NAGOYA	JA	1919	▼
BANK OF NANJING	CN	569	▼
BANK OF NEW YORK MELLON	US	162	▲
BANK OF NINGBO	CN	541	▲
BANK OF NOVA SCOTIA	CA	88	▼
BANK OF QINGDAO	CN	1781	▼
BANK OF QUEENSLAND	AU	1841	▼
BANK OF SHANGHAI	CN	358	▼
BANK OF THE OZARKS	US	1874	NEW
BANK OF TIANJIN	CN	1221	▼
BANK OF ZHENGZHOU	CN	1258	▼
BANK PEKAO	PL	1106	NEW
BANK RAKYAT INDONESIA	ID	415	▼
BANKIA	SP	805	▼
BANKINTER	SP	1035	▲
BANKUNITED	US	1466	▲
BANQUE CENTRALE POPULAIRE	MO	1827	▼
BANQUE MAROCAINE DU COMMMERCE EXTERIEUR	MO	1936	▲
BANQUE SAUDI FRANSI	SU	987	▼
BAOSHAN IRON & STEEL	CN	236	▲
BARCLAYS	UK	480	▼
BARRATT DEVELOPMENTS	UK	1518	▼
BARRICK GOLD	CA	791	▼
BARRY CALLEBAUT	SZ	1826	▲
BASF	GE	82	▲
BASLER KANTONALBANK	SZ	1824	▲
BAWAG	AS	1379	NEW
BAXTER INTERNATIONAL	US	719	▼
BAYER	GE	100	▼
BAYWA	GE	1710	▼
BB&T	US	255	▼
BBMG (CONSTRUCTION)	CN	1362	▼
BBVA BANCO CONTINENTAL	PE	1780	▼
BBVA-BANCO BILBAO VIZCAYA	SP	116	▼
BCE	CA	333	▼
BCI-BANCO CREDITO	CH	1130	▲
BCV	SZ	1724	▼
BDO UNIBANK	PH	1072	▼
BECTON DICKINSON	US	669	▼
BED BATH & BEYOND	US	1649	▼
BEIERSDORF	GE	978	▼
BEIJING CAPITAL DEVELOPMENT	CN	1534	▲
BEIJING ENTERPRISES	HK	1174	▼
BEIJING SHOUGANG	CN	1561	▲
BENDIGO & ADELAIDE BANK	AU	1644	▼
BERKELEY	UK	1744	NEW
BERKSHIRE HATHAWAY	US	4	▼
BERRY GLOBAL	US	1891	NEW
BEST BUY	US	642	▼
BGF RETAIL	KO	1533	NEW
BHARAT PETROLEUM	IN	672	▼
BHARTI AIRTEL	IN	827	▼
BHP BILLITON	AU	108	▲
BID	SA	1972	▼
BIOGEN	US	425	▼
BIOMARIN PHARMACEUTICAL	US	1999	▼
BIO-RAD LABORATORIES	US	1764	▼
BLACKROCK	US	185	▲
BLOM BANK	LE	1557	▼
BLUESCOPE STEEL	AU	1538	▲
BMW	GE	40	▲
BNK FINANCIAL	KO	1443	▼
BNP PARIBAS	FR	19	▲
BOE TECHNOLOGY	CN	506	▲
BOEING	US	52	▲
BOHAI FINANCIAL INVESTMENT	CN	1456	▲
BOK FINANCIAL	US	1816	▲
BOLIDEN	SW	1346	▲
BOMBARDIER	CA	1135	▲
BOOKING	US	398	▲
BORGWARNER	US	1330	▲
BOSTON PROPERTIES	US	1159	▼
BOSTON SCIENTIFIC	US	965	▼
BOUYGUES	FR	423	▲
BP	UK	36	▲
BPER BANCA	IT	1352	▲
BRAMBLES	AU	1644	▼
BRASKEM	BR	834	▲
BRENNTAG	GE	1403	▼
BRF	BR	1773	▼
BRIDGESTONE	JA	313	▼
BRIGHTHOUSE FINANCIAL	US	1135	NEW
BRILLIANCE CHINA AUTO	HK	1762	▼
BRISTOL-MYERS SQUIBB	US	410	▼
BRITISH AMERICAN TOBACCO	UK	88	▲
BRITISH LAND	UK	1368	▲
BRITISH SKY BROADCASTING	UK	518	▲
BROADCOM	US	200	▲
BROADRIDGE FINANCIAL	US	1815	NEW
BROOKFIELD ASSET MGMT	CA	165	▲
BROWN-FORMAN	US	1219	▼
BT	UK	282	▼
BUNGE	US	967	▼
BUNZL	UK	1413	▼
BUREAU VERITAS REGISTRE INTL DE CLASSIFIC	FR	1966	▼
BURLINGTON STORES	US	1895	NEW
BYD (CONSUMER DURABLES)	CN	694	▼
C.H. ROBINSON	US	1085	▼
CA	US	1514	▼

▲ UP ▼ DOWN
● UNCHANGED ● NEW
ASIAN COMPANIES ARE IN RED TYPE

KEPPEL URBAN SOLUTIONS

Bandai Namco 1756

The creator of arcade classic *Pac-Man* and popular fighting tournament *Tekken* is among the top ten listed videogame sellers worldwide. It racked up $2.4 billion in such revenue last year, trailing the likes of Chinese giant Tencent, Sony and Nintendo. Japan's third-largest game developer is also strengthening its presence in the Americas, its next biggest market. In July it will kick off a North American tour to promote the popular *Dragon Ball* games, based on the eponymous manga and anime series. The company published its latest *Dragon Ball FighterZ* game in January. Bandai Namco also earned $1.2 billion last year from the game services it provided to Apple and Google, its two major clients. It also has interests in toys, anime, arcades and amusement parks. Its assets include a virtual reality (VR) entertainment zone in Tokyo's Shinjuku district; with a collection of 15 attractions over 37,700 square feet, it is Japan's largest VR facility.

of the auspicious number eight. In one pod there'll be residential towers and international schools; the other includes a stadium, recreation facilities, shops, restaurants and offices. Keppel expects to complete phase one in 2021. What will make it a smart city? Residents will be able to use a smartphone app to control home-security settings, appliances, lighting and the temperature as well as to monitor how quickly their electric cars are being charged or to pinpoint vacant parking spaces. Technology outfits will be encouraged to use the project's cloud-based platform to develop additional apps. Meanwhile, Keppel will collect copious amounts of data it can use to improve services, make buildings more energy-efficient and gain insights into the consumer behavior of its residents that will help its commercial tenants.

This year Keppel ranks No. 1,634 on *Forbes Asia*'s Global 2000 list. The stock is up 58% since early 2016, boosting its market capitalization to $10 billion. This year's revenue is expected to come in at $4.9 billion, 13% higher than 2017's, according to an average of analysts' estimates compiled by Bloomberg. Net profit is seen jumping from $157 million last year to $788 million in 2018, buoyed by strong property sales. It was welcome news after a string of headlines about a corruption scandal in Brazil that hammered profits last year *(see box, opposite)*. "What differentiates Keppel is that we want to be involved for the long term," says Loh, noting that its role as an owner and manager is a plus for commercial tenants and residential owners. "If you are building something, and you know you are going to run it, then you will have a more thoughtful, high-quality design."

Loh, who turns 57 this month, joined Keppel in 2002 and started a Keppel unit, Alpha Investment Partners, where he served as managing director. He was tapped as Keppel's chief financial officer in 2012 and stepped up to CEO in 2014.

Keppel's experience in huge urban projects over the past 20 years fuels Loh's confidence. In China, for instance, Keppel leads the Singapore consortium that's helping to build Tianjin Eco-City. Started in 2008, it's a joint venture of the China and Singapore governments and designed as a model to be replicated across the mainland. (The China consortium comprises several Chinese developers.) Today what was a gargantuan salt pan is now a city of 80,000 on its way to 350,000, with 6,000 companies. Its smart technology includes streetlamps that monitor traf-

BOE Technology 506

One of today's modern technological wonders is the flat-panel liquid crystal display (LCD) screen, the key component in televisions, computer monitors and smartphones. The entire world's supply is made within two time zones in East Asia. One of the big players in flat-panel production is Beijing's BOE Technology Group, which recently opened its Gen 10.5 factory in Hefei, the capital of China's Anhui Province. Gen 10.5 is the third factory, or "fab," that BOE has built in Hefei, and in terms of capability it is now the most advanced in the world. And the fab is enormous, just over a kilometer from one end to the other. Press reports say BOE spent $6.95 billion on Gen 10.5, part of an overall $15.2 billion expansion. BOE has a total of 10 fabs (with 2 under construction) throughout China. –*Willy Shih*

REUTERS/ISSEI KATO (TOP)

PUTTING A BRIBERY SCANDAL BEHIND IT

Keppel endured a painful lesson last year. A corruption scandal in its Brazil operation forced it to pay fines and costs of $422 million. Instead of posting what could have been a 7% gain in net profit for 2017, Keppel saw its net profit plunge 72%. The settlement—paid to authorities in Brazil, the U.S. and Singapore—followed revelations that a rogue agent in Keppel's offshore and marine division had bribed Brazilian officials to win 13 contracts tendered by Petrobras and Sete Brasil from 2001 to 2012. Several executives in that unit knew about, or approved, the scheme.

Keppel now has extra security measures in place. "We need to re-earn the trust that's been lost," says CEO Loh Chin Hua. "We still encourage Keppelites to take legitimate risks, but there are some bright lines we should never cross. We don't want to see this happen again." *—J.A.P.*

fic, flooding, security, noise and air quality; they also charge electric cars and make public announcements. Self-driving cars are on the way. They're now in the testing stage.

Tianjin Eco-City lost money for its first eight years, but it's beginning to pay off for Keppel and other investors as residences and land parcels sell for ever higher prices. So far, Keppel Land has sold 4,000 of the 29,000 homes in the new city, with the rest being sold by other developers. It has 12,000 more in the pipeline, but as elsewhere in China, government cooling measures have slowed home sales in Tianjin. Keppel has also built the commercial properties and the heating and cooling plants. The goal is for renewable sources to generate 20% of the electricity.

In the city-building industry, Keppel's main competitors in China are Country Garden, Agile and Evergrande, all mainland developers with large land banks. But according to DBS analyst Danielle Wang in Hong Kong, they now face resistance from the government, which increasingly wants to avoid awarding large plots to a single developer. "The Chinese government wants to be the master planner today," she says. "The government can charge more if they give smaller pieces of land to different developers." Nevertheless, Keppel is pursuing more deals in China, as well as in Vietnam and the Philippines, according to Cindy Lim, Keppel Urban Solutions' managing director.

In Singapore, non-luxury-township master planning is off-limits to private developers. One such non-luxury township will open in November, when Singapore's Housing Development Board launches Tengah, billing it as a lush "forest town." As the country's first new town in more than 20 years, it will have a car-free town center, self-driving vehicles and 42,000 homes when fully developed over the next two decades.

But large-scale luxury development remains lucrative for Keppel in Singapore, and Lim says she's looking to pitch more such projects. Keppel Land's sleek Keppel Bay waterfront development rises like a phoenix on the site of its old shipyard, which ceased operating in 2000. Offices in Keppel Bay Tower form one bookend, while the iconic Reflections, designed by architect Daniel Libeskind, forms the other—six gleaming residential towers majestically bending together. Sandwiched in between is a sprawling stretch of luxury residences that surround a marina full of yachts, coral and fish.

Meanwhile, Keppel works with the Singapore government on major infrastructure projects. After building several plants for cooling, waste and water, Keppel is now building the country's fourth desalination plant, and it's expected to open in 2020. Producing up to 30 million gallons of fresh drinking water a day, it will treat both seawater and fresh water, and Keppel will own and operate it for 25 years. The grass-covered plant is surrounded by walking trails, and gushing mini-waterfalls camouflage the machinery.

Loh sees Keppel building floating islands someday. He says waterfront cities with space constraints–such as Singapore, Hong Kong and Tokyo–could float infrastructure or residential developments offshore: "It's not commercialized; you need some farsighted cities." He adds that sovereign wealth funds may be well placed to take the investment lead. "If you want super-imagination, you could see a small-scale city built near shore."

Despite the focus on tech-infused development, Loh, as do other city planners, wants his staff to regularly ask: "How do we create a place where people feel at home?" Social media can help urban dwellers connect and organize events, he says: "If you can achieve that, then you are building a city. For Keppel there will be no shortage of opportunities. If you finish in China, you still have India and Africa. We can be doing this for a few lifetimes." Ⓕ

GLOBAL **2000**

CAESARS ENTERTAINMENT	US	1550	●
CAIXABANK	SP	299	▲
CALTEX AUSTRALIA	AU	1459	▼
CAMPBELL SOUP	US	1077	▲
CANADIAN IMPERIAL BANK	CA	195	▼
CANADIAN NATIONAL RAILWAY	CA	403	▼
CANADIAN NAT RESOURCES	CA	321	▲
CANADIAN PACIFIC RAILWAY	CA	849	▲
CANADIAN TIRE	CA	1282	▼
CANARA BANK	IN	1271	▼
CANON	JA	252	▲
CAPGEMINI	FR	665	▼
CAPITAL ONE FINANCIAL	US	159	▼
CAPITALAND	SI	931	▲
CARDINAL HEALTH	US	359	▼
CARLSBERG	DE	1100	▼
CARMAX	US	864	▼
CARNIVAL	US	310	▼
CARREFOUR	FR	685	▼
CATCHER TECHNOLOGY	TA	1687	▼
CATERPILLAR	US	166	▲
CATHAY FINANCIAL	TA	260	▼
CATHAY PACIFIC AIRWAYS	HK	1384	▼
CATTOLICA ASSICURAZIONI	IT	1677	▲
CBOE	US	1731	●
CBRE	US	892	▲
CBS	US	626	▼
CDW	US	1047	▲
CECONOMY	GE	981	▼
CELANESE	US	1097	▲
CELGENE	US	350	▼
CELLTRION	KO	1548	●
CEMEX	MX	956	▼
CENCOSUD	CH	992	▼
CENOVUS ENERGY	CA	644	▲
CENTENE	US	475	▲
CENTERPOINT ENERGY	US	765	▲
CENTRAL BANK OF INDIA	IN	1736	▼
CENTRAL JAPAN RAILWAY	JA	250	▲
CENTRICA	UK	822	▼
CENTURYLINK	US	386	▲
CERNER	US	1156	▲
CEZ	CZ	795	▲
CF INDUSTRIES	US	1885	●
CGI	CA	1011	▼
CGN POWER	CN	707	▲
CHANG HWA BANK	TA	1502	▼
CHAPARRAL ENERGY	US	1963	▼
CHARLES SCHWAB	US	273	▲
CHAROEN POKPHAND FOODS	TH	1261	▼
CHARTER COMMUNICATIONS	US	96	▲
CHECK POINT SOFTWARE	IS	1349	▼
CHEMOURS	US	1363	●
CHENIERE ENERGY	US	1137	▲
CHESAPEAKE ENERGY	US	1276	▲
CHEUNG KONG PROPERTY	HK	428	▼
CHEVRON	US	21	▲
CHIBA BANK	JA	1285	▼
CHIMERA INVESTMENT	US	1630	▲
CHINA AGRI-INDUSTRIES	HK	1999	▼
CHINA AVIATION OIL	SI	1734	▲
CHINA CINDA ASSET MGMT	CN	363	▼
CHINA CITIC BANK	CN	85	▼
CHINA COAL ENERGY	CN	957	▲
CHINA COMM CONSTRUCTION	CN	169	▼
CHINA COMM SERVICES	CN	1623	▼
CHINA CONSTRUCTION BANK	CN	2	●
CHINA DEV FINANCIAL	TA	1497	●
CHINA EASTERN AIRLINES	CN	601	▲
CHINA ENERGY ENGINEERING	CN	754	▼
CHINA EVERBRIGHT BANK	CN	141	▲
CHINA EVERGRANDE	CN	127	▲
CHINA FORTUNE LAND DEV	CN	610	▲
CHINA GALAXY SECURITIES	CN	1386	▼
CHINA GAS	HK	1234	●
CHINA GEZHOUBA	CN	939	▼
CHINA GRAND AUTO SVCS	CN	901	▲
CHINA HONGQIAO	CN	850	▲
CHINA HUARONG ASSET MGMT	CN	323	▼
CHINA INTERNATIONAL CAPITAL	CN	1416	●
CHINA INTERNATIONAL MARINE	CN	1367	▲
CHINA INTL TRAVEL SERVICE	CN	1531	●
CHINA JINMAO	HK	1396	▲
CHINA LIFE INSURANCE	CN	35	▲
CHINA LIFE INS (TAIWAN)	TA	1272	▼
CHINA LONGYUAN POWER	CN	1582	▼
CHINA MENGNIU DAIRY	HK	1477	▲
CHINA MERCHANTS	HK	1535	▼
CHINA MERCHANTS BANK	CN	32	▲
CHINA MERCHANTS SECURITIES	CN	887	▼
CHINA MERCHANTS SHEKOU IND	CN	409	▲
CHINA MINSHENG BANKING	CN	90	▼
CHINA MOBILE	HK	25	▼
CHINA MOLYBDENUM	CN	1157	▲
CHINA NATIONAL BUILDING	CN	875	▲
CHINA NATIONAL CHEMICAL	CN	1843	▼
CHINA NAT NUCLEAR POWER	CN	881	▼
CHINA ORIENTAL	HK	1753	●
CHINA PACIFIC INSURANCE	CN	138	▲
CHINA PETRO ENGINEERING	CN	1865	●
CHINA RAILWAY CONSTRUCTION	CN	218	▼
CHINA RAILWAY	CN	188	▼
CHINA REINSURANCE	CN	764	▼
CHINA RESOURCES LAND	HK	312	▲
CHINA RESOURCES PHARMA	HK	1000	▲
CHINA RESOURCES POWER	HK	977	▼
CHINA SHENHUA ENERGY	CN	131	▲
CHINA SHIPBUILDING INDUSTRY	CN	1169	▼
CHINA SOUTHERN AIRLINES	CN	553	▲
CHINA ST CONSTRUCTION ENG	CN	84	▼
CHINA STEEL	TA	871	▼
CHINA TAIPING INSURANCE	HK	524	▲

▲ UP ▼ DOWN
● UNCHANGED ● NEW
ASIAN COMPANIES ARE IN RED TYPE

INSURANCE AS ENTRÉE TO TECH

Jessica Tan has overseen Chinese giant Ping An's parallel and sweeping rise in big data.

BY SHU-CHING JEAN CHEN

Ping An Insurance is China's biggest insurer, but it really reigns supreme as the industry No. 1 by profit and return on equity. Its market capitalization, at $180 billion, is 74% larger than the country's old standard, China Life, and 64% above the largest listed pan-Asia insurer, AIA. By this measure it is the world's largest insurer except for Berkshire Hathaway.

To make sense of these startling numbers—and of Ping An's rise to No. 10 on the Forbes Global 2000—look beyond the stodgy insurance business and into the realm of high technology whose tentacles reach into every aspect of commerce in China and eventually show up in the mobile handsets of Chinese consumers.

Ping An has early-mover advantage in mobile apps and underlying technologies from artificial intelligence and blockchain. Spreading across Ping An's vast territory in finance, encompassing insurance, banking and asset management, are ten startups it has spawned in the last six years.

The engine and incubator is a wholly owned fintech offshoot, Ping An Technology, which leads the FinTech Top 100, a global survey by consultancy IDC, as China's top player, ahead of rival Hangzhou-based Hundsun Technologies backed by Ant Financial. The effort bridges financial big data with healthcare management.

From this wellspring came startups including peer-to-peer lender Lufax, set up in 2012, fetching a valuation of $18.5 billion in a fundraising two years ago; Ping An Good Doctor, a healthcare portal with 30 million-plus monthly active users whose recent IPO raised $1.1 billion in Hong Kong; and Ping An Healthcare Technology, a mobile app for booking hospital visits used by 800 million customers across 70% of cities in China.

To consumers, the offer is often free mobile apps. But there's a business-to-business app: OneConnect, linking 2,400 banks and nonfinancial institutions and valued at $7.4 billion in its last funding round.

Ping An's technology czar is Jessica Tan, a 41-year-old Singaporean who travels back

"We are not afraid to take calculated bets": Ping An tech czar Jessica Tan.

GLOBAL 2000

CHINA TELECOM	CN	174	▼
CHINA UNICOM	HK	534	▼
CHINA VANKE	CN	133	▲
CHINA YANGTZE POWER	CN	420	▼
CHINA ZHESHANG BANK	CN	538	▼
CHINATRUST FINANCIAL	TA	453	▲
CHONGQING CHANGAN AUTO	CN	1033	▼
CHONGQING RURAL BANK	CN	816	●
CHOW TAI FOOK JEWELLERY	HK	1390	▲
CHRISTIAN DIOR	FR	150	▲
CHUBB	SZ	130	▼
CHUBU ELECTRIC POWER	JA	596	▼
CHUGOKU BANK	JA	1612	▲
CHUGOKU ELECTRIC POWER	JA	1327	▲
CHUNGHWA TELECOM	TA	782	▼
CHURCH & DWIGHT	US	1511	▲
CIELO	BR	968	▲
CIFI HOLDINGS	CN	1465	●
CIGNA	US	220	▼
CIMAREX ENERGY	US	1903	●
CIMB (BANKING)	MA	620	▲
CINCINNATI FINANCIAL	US	1045	▼
CINTAS	US	1143	▲
CISCO SYSTEMS	US	444	▼
CIT	US	1681	▼
CITIC PACIFIC	HK	76	▼
CITIC SECURITIES	CN	492	▼
CITI	US	374	▼
CITIZENS FINANCIAL	US	513	▲
CJ CHEILJEDANG	KO	1528	▲
CJ (FOOD, DRINK & TOBACCO)	KO	1067	▲
CK HUTCHISON	HK	142	▼
CLOROX	US	1171	▼
CLP (UTILITIES)	HK	511	▼
CME	US	516	▲
CMS ENERGY	US	1061	▼
CNH INDUSTRIAL	UK	643	▲
CNO FINANCIAL	US	1958	▼
CNOOC	HK	158	▲
CNP ASSURANCES	FR	287	▲
CNPC CAPITAL	CN	693	▲
CNX RESOURCES	US	1948	●
COAL INDIA	IN	645	▼
COCA-COLA	US	209	▼
COCA-COLA EURO PARTNERS	UK	726	▲
COCA-COLA HBC	SZ	1376	▲
COCA-COLA WEST	JA	1852	●
COGNIZANT	US	573	▼
COLGATE-PALMOLIVE	US	549	▼
COLOPLAST	DE	1385	▲
COLRUYT	BE	1566	▼
COMCAST	US	34	▼
COMERICA	US	836	▲
COMMERCIAL BANK FOR INV & DEV OF VIETNAM	VE	1714	▼
COMMERCIAL BANK OF QATAR	QA	1838	▲
COMMERZBANK	GE	690	▼
COMMONWEALTH BANK	AU	71	▼
COMMUNITY HEALTH SYSTEMS	US	1469	▼
COMPAL ELECTRONICS	TA	1500	▲
COMPANHIA BRASILEIRA DE DISTRIBUICAO	BR	1616	▼
COMPASS	UK	517	▼
CONAGRA BRANDS	US	1057	▼
CONCHO RESOURCES	US	1031	▲
CONCORDIA FINANCIAL	JA	1102	▲
CONOCOPHILLIPS	US	530	▼
CONSOLIDATED EDISON	US	465	▼
CONSTELLATION BRANDS	US	593	▲
CONSTELLATION SOFTWARE	CA	1980	●
CONTINENTAL	GE	204	▲
CONTINENTAL RESOURCES	US	1038	▲
CORE-MARK	US	1764	▲
CORNING	US	940	▼
CORPORATION BANK	IN	1862	▼
COSCO SHIPPING	CN	1183	▲
COSMO ENERGY	JA	1065	▲
COSTCO WHOLESALE	US	189	▼
COTY	US	1196	▲
COUCHE TARD	CA	448	▲
COUNTRY GARDEN	CN	143	▲
COVESTRO	GE	625	●
CP ALL (FOOD MARKETS)	TH	918	▲
CPI PROPERTY	LU	1906	●
CREDICORP	PE	716	▲
CREDIT AGRICOLE	FR	148	▲
CREDIT BANK OF MOSCOW	RU	1849	●
CREDIT SUISSE	SZ	482	▲
CREDITO EMILIANO	IT	1758	▲
CRH	IR	328	▼
CROWN	US	1956	▼
CROWN CASTLE INTL	US	960	▲
CROWN RESORTS	AU	1681	▲
CRRC (CAPITAL GOODS)	CN	277	▼
CSC FINANCIAL	CN	1467	▼
CSL (PHARMA & BIOTECH)	AU	800	▲
CSPC PHARMACEUTICAL	HK	1844	●
CSX	US	339	▲
CTRIP.COM INTERNATIONAL	CN	1278	▼
CULLEN/FROST BANKERS	US	1636	▲
CUMMINS	US	604	▼
CVS HEALTH	US	69	▼
CYBG	UK	1689	▲
DAELIM INDUSTRIAL	KO	1437	●
DAI NIPPON PRINTING	JA	1538	▼
DAI-ICHI LIFE INSURANCE	JA	194	▼
DAIICHI SANKYO	JA	898	▼
DAIKIN INDUSTRIES	JA	447	▼
DAIMLER	GE	29	▼
DAISHI BANK	JA	1698	▲
DAITO TRUST CONSTRUCTION	JA	975	▼

▲ UP ▼ DOWN
● UNCHANGED ● NEW
ASIAN COMPANIES ARE IN RED TYPE

DAIWA HOUSE INDUSTRY	JA	343	▲
DAIWA SECURITIES	JA	763	▼
DALI FOODS	CN	1860	▼
DANAHER	US	267	▼
DANGOTE CEMENT	NI	1652	▼
DANONE	FR	239	▲
DANSKE BANK	DE	224	▲
DAQIN RAILWAY	CN	636	▲
DARDEN RESTAURANTS	US	1334	▼
DASSAULT AVIATION	FR	999	▲
DASSAULT SYSTEMES	FR	1260	▲
DATANG INTL POWER	CN	1141	▼
DAVITA	US	1045	▼
DB INSURANCE	KO	949	▲
DBS (BANKING)	SI	228	▲
DCC	IR	1487	▼
DEERE & COMPANY	US	271	▼
DELEK	IS	1740	▲
DELL TECHNOLOGIES	US	462	▲
DELTA AIR LINES	US	224	▼
DELTA ELECTRONICS	TA	1394	▼
DENSO	JA	222	▲
DENTSU	JA	785	▼
DEUTSCHE BANK	GE	495	▼
DEUTSCHE BOERSE	GE	689	▲
DEUTSCHE LUFTHANSA	GE	372	▲
DEUTSCHE PFANDBRIEFBANK	GE	1641	▲
DEUTSCHE POST	GE	205	▼
DEUTSCHE TELEKOM	GE	79	▼
DEUTSCHE WOHNEN	GE	868	▲
DEVON ENERGY	US	664	▲
DEXIA	BE	1062	▲
DEXUS	AU	1665	▼
DGB FINANCIAL	KO	1725	▲
DIAGEO	UK	272	▼
DIAMONDBACK ENERGY	US	1698	○
DIGITAL REALTY TRUST	US	1354	▼
DISCOVER FINANCIAL SVCS	US	356	▼
DISCOVERY COMMUNICATIONS	US	1019	▼
DISH NETWORK	US	546	▼
DIXONS CARPHONE	UK	1856	▼
DNB	NO	332	▼
DOLLAR GENERAL	US	615	▼
DOLLAR TREE	US	556	▲
DOLLARAMA	CA	1917	▲
DOMINION RESOURCES	US	302	▼
DON QUIJOTE	JA	1967	○
DONGFENG MOTOR	CN	598	▼
DOOSAN	KO	1263	▲
DOVER	US	1165	▲
DOWDUPONT	US	122	▼
DP WORLD	AE	915	▼
DR HORTON	US	786	▲
DR PEPPER SNAPPLE	US	989	▲
DSM	NE	703	▲
DSME (CAPITAL GOODS)	KO	1571	▲
DSV	DE	1113	▲
DTE ENERGY	US	579	▼
DUBAI ISLAMIC BANK	AE	1121	▼
DUFRY	SZ	1928	▼
DUKE ENERGY	US	176	▼
DXC TECHNOLOGY	US	464	▲
E.ON	GE	230	▲
E.SUN FINANCIAL	TA	1253	▲
EAST JAPAN RAILWAY	JA	235	▼
EAST WEST BANCORP	US	1208	▲
EASTMAN CHEMICAL	US	792	▲
EASYJET	UK	1852	▼
EATON	IR	345	▼
EBAY	US	897	▼
ECOLAB	US	523	▼
ECOPETROL	CO	300	▲
EDF	FR	115	▲
EDISON INTERNATIONAL	US	727	▼
EDP-ENERGIAS DE PORTUGAL	PO	518	▼
EDWARDS LIFESCIENCES	US	1323	▼
EFG INTERNATIONAL	SZ	1813	▼
EIFFAGE	FR	732	▲
EISAI (PHARMACEUTICALS)	JA	1687	▼
E-L FINANCIAL	CA	1871	○
EL PUERTO DE LIVERPOOL	MX	1577	▼
ELECTRIC POWER DEV	JA	1213	▲
ELECTRICITY GENERATING	TH	1991	▼
ELECTROLUX	SW	1254	▼
ELECTRONIC ARTS	US	1004	▼
ELETROBRÁS	BR	1120	▼
ELI LILLY	US	330	▼
EMAAR PROPERTIES	AE	893	▼
E-MART	KO	1224	▲
EMERSON ELECTRIC	US	481	▼
EMIRATES NBD	AE	567	▲
EMPIRE	CA	1692	▼
EMPRESAS CMPC	CH	1790	○
EMS-CHEMIE	SZ	1608	▼
ENBRIDGE	CA	178	▲
ENBW-ENERGIE BADEN	GE	514	▲
ENCANA	CA	1408	▲
ENEL	IT	75	▲
ENGIE	FR	180	▲
ENI	IT	95	▲
ENN ENERGY	CN	1591	○
ENTERGY	US	796	▲
ENVISION HEALTHCARE	US	1953	○
EOG RESOURCES	US	368	▲
EQT	US	1426	▲
EQUIFAX	US	1593	▼
EQUINIX	US	1264	▲
EQUINOR*	NO	91	▲
EQUITY RESIDENTIAL	US	1231	▲
ERDEMIR (STEEL)	TU	1436	○
ERICSSON	SW	757	▼
ERSTE GROUP BANK	AS	430	▼
ESSEX PROPERTY TRUST	US	1761	▼
ESSILOR INTERNATIONAL	FR	820	▼
ESSITY	SW	722	○
ESTÉE LAUDER	US	668	▲
ETISALAT	AE	392	▼
E-TRADE FINANCIAL	US	876	▲
EUROBANK ERGASIAS	GR	1632	▲
EVERBRIGHT SECURITIES	CN	1381	▼
EVEREST RE	BU	1343	▼
EVERSOURCE ENERGY	US	698	▼
EVONIK	GE	611	▲
EVRAZ	UK	1178	○
EXELON	US	179	▲
EXOR	NE	248	▲
EXPEDIA	US	1058	▲
EXPEDITORS INTERNATIONAL	US	1331	▲
EXPERIAN	IR	1245	▼
EXPRESS SCRIPTS	US	172	▼
EXTRA SPACE STORAGE	US	1767	▲
EXXONMOBIL	US	13	●
F.N.B.	US	1977	○
FABEGE AB	SW	1996	▼
FACEBOOK	US	77	▲
FAIRFAX FINANCIAL	CA	419	▲
FALABELLA	CH	648	▼
FAMILYMART	JA	1193	○
FANGDA CARBON NEW MAT	CN	1743	▼
FANNIE MAE	US	394	▼
FANUC (CAPITAL GOODS)	JA	738	▲
FAR EAST HORIZON	HK	1551	▲
FAR EASTERN NEW CENTURY	TA	1877	▼
FAST RETAILING	JA	578	▲
FASTENAL	US	1461	▼
FASTIGHETS BALDER	SW	1808	▲
FEDEX	US	155	▲
FEMSA	MX	371	▲
FERGUSON	SZ	731	▲
FERRARI	IT	1283	▲
FERROVIAL	SP	797	▼
FIAT CHRYSLER AUTOMOBILES	UK	128	▲
FIBI	IS	1848	▲
FIBRIA CELULOSE	BR	1935	○
FIDELITY NATIONAL FINANCIAL	US	1177	▼
FIDELITY NAT INFORMATION	US	595	▲
FIFTH THIRD BANCORP	US	424	▲
FINANCIAL STREET	CN	1868	▲
FINANCIERE DE L'ODET	FR	879	▲
FINATIS	FR	993	▲
FINECOBANK	IT	1980	○
FIRST ABU DHABI BANK	AE	384	▲
FIRST CITIZENS BANCSHARES	US	1818	▲
FIRST DATA	US	526	▲
FIRST FINANCIAL	TA	1155	▼
FIRST HORIZON NATIONAL	US	1836	▲
FIRST PACIFIC	HK	1754	▲
FIRST QUANTUM MINERALS	CA	1632	▲
FIRST REPUBLIC BANK	US	841	▼
FIRSTENERGY	US	876	▼
FIRSTRAND	SA	470	▼
FISERV	US	955	▲
FLEETCOR TECHNOLOGIES	US	1261	▲
FLEXTRONICS INTERNATIONAL	SI	1176	▼
FLUOR	US	1677	▼
FMC	US	1422	○
FOCUS MEDIA INF TECHNOLOGY	CN	1201	▲
FONCIÈRE DES RÉGIONS	FR	1167	▲
FORD MOTOR	US	67	▼
FORD OTOSAN	TU	1969	○
FORMOSA CHEMICALS	TA	580	▲
FORMOSA PETROCHEMICAL	TA	478	▼
FORMOSA PLASTICS	TA	801	▲
FORTESCUE METALS	AU	879	▼
FORTIS (CANADA)	CA	830	▲
FORTIVE	US	950	▲
FORTUM	FI	814	▲
FORTUNE BRANDS HOME & SEC	US	1951	▼
FOSHAN HAITIAN FLAV & FOOD	CN	1313	▲
FOSUN INTERNATIONAL	CN	416	▲
FOUNDER SECURITIES	CN	1891	▼
FRANKLIN RESOURCES	US	968	▼
FRASER & NEAVE	SI	1938	▼
FRASERS CENTREPOINT	SI	1920	▼
FREDDIE MAC	US	387	▼
FREEPORT-MCMORAN	US	406	▲
FRESENIUS	GE	232	▼
FRESNILLO	MX	1591	▼
FRONTIER COMMUNICATIONS	US	1516	▼
FUBON FINANCIAL	TA	303	▲
FUJIFILM	JA	467	▼
FUJITSU	JA	521	▼
FUKUOKA FINANCIAL	JA	1511	▼
FUTURE LAND DEVELOPMENT	CN	1316	○
FUYO GENERAL LEASE	JA	1973	○
GAIL INDIA (OIL & GAS)	IN	1402	▼
GALAXY ENTERTAINMENT	HK	832	▲
GALP ENERGIA	PO	805	▲
GAP	US	976	▲
GARANTI BANK	TU	647	▼
GARMIN	SZ	1666	▼
GAS NATURAL FENOSA	SP	327	▼
GAZPROM	RU	43	▼
GD POWER DEVELOPMENT	CN	1084	▼
GEBERIT	SZ	1521	▼
GECINA	FR	933	▲
GEELY AUTOMOBILE	HK	683	▲
GEMDALE (REAL ESTATE)	CN	1016	▼
GENERAL DYNAMICS	US	251	▼
GENERAL ELECTRIC	US	388	▼

▲ UP ▼ DOWN
● UNCHANGED ○ NEW
ASIAN COMPANIES ARE IN RED TYPE

*FORMERLY STATOIL.

PING AN INSURANCE

each week to see her family from her base—and the group's tech center—in Shanghai. She joined in 2013 from McKinsey after 13 years as a consultant and is the group's No. 2 after founder and CEO Peter Ma. Formally, Tan is deputy CEO, COO and chief information officer.

Ma set up the company in 1988 with a dozen people and founding shareholders China Merchants Group and ICBC, China's largest bank (and today No. 1 on the Global 2000). As early as 1994, Morgan Stanley and Goldman Sachs came in as foreign investors, the first in a mainland Chinese financial institution. In 2002, HSBC bought in to be its single largest shareholder but later disposed of its entire 16% stake to the Charoen Pokphand Group for $9.4 billion, making the Thai conglomerate its largest shareholder.

When Tan was relocated by McKinsey from the U.S. in 2003, Ping An became her first client through the HSBC link. With a master's degree from MIT in electrical engineering and computer science, she since has overseen the growth of Ping An's tech team from 3,000 to over 22,000. It competes in a field that includes China's technology giants—Alibaba has Ant Financial and Tencent has its WeChat platform—but Tan says Ping An's insurance scale gives it an edge.

She spoke to *Forbes Asia* from the company's floorwide international office in Hong Kong's IFC skyscraper (as edited):

FORBES ASIA: How do you benchmark with an insurance company or a finance company that combines with technology?
TAN: It does not exist. Six years ago, we put all our systems on the cloud—this is unthinkable. No organization in the world was doing this. No financial institution in the world comes even remotely close to what we are doing. We have been very lucky in our being in China, a big, high-growth market with reasonable margins. We could afford to invest 1% of our revenues into R&D, which is 10% of our profit every year, on new technology for ten years, above and beyond whatever traditional insurance companies and banks do on their IT expense.

We are not afraid to take calculated bets. It is very difficult for such a large organization to adopt this kind of culture. We are number one in AI medical imaging, for instance, with more than 95% accuracy in the authoritative LUNA rankings for imaging in two categories for lung diseases, ahead of Alibaba Health.

Chinese doctors spend on average, per patient, three to four minutes, especially in top-tier hospitals. Informal statistics show 30-odd percent of misdiagnoses or missed early detection—we drop it down to only 8%.

We started developing this technology two years ago. By the end of this year we should cover 35 different types of illnesses and about 600 million patients.

In April, Shanghai's Ministry of Health signed with us to ensure quality of diagnosis and service. With this agreement, all hospitals in Shanghai must connect to our system in real time. This is a huge impact on the quality of people's diagnoses, and it saves costs and lives.

How much of the group's revenue or profit can be attributed directly or indirectly to its online initiatives, including all the online platforms or apps? Tech is formally only 1% of revenues.

Two measures: The first is the 16.4% of group profit contribution directly from the ten tech [startup] businesses. The other is the 36% to 40% of new financial customers coming from the mobile apps. No

YUAN'S CHUAN CHUAN XIANG: GOURMET FOOD FROM CHINA

Restaurant founder Yuan Gang has taken one of China's favorite dishes upmarket, and now plans to build the brand overseas on the back of its continuing success at home.

Chuan Chuan Xiang is a local delicacy from Chengdu, China, which offers a twist on the country's traditional hot pot meal. Ingredients such as pre-sauced beef, pork, chicken and fresh vegetables are skewered on bamboo sticks and then boiled in a broth with dozens of seasonings until well cooked, then served with a choice of sesame oil, garlic, oyster sauce and vinegar among other flavorings.

It's estimated that China, with its extensive food culture, has hundreds of thousands of versions of hot pot, however Yuan's Chuan Chuan Xiang is considered one of the best. The restaurant brand, founded in 1996, has gone on to be the only one of its kind to receive the title of "Well-Known Brand in Sichuan Province" conferred by the government.

Yuan Gang, the founder of Yuan's Chuan Chuan Xiang was raised in a remote and impoverished village in Sichuan province, which he left for Chengdu to make a living with a total of RMB63 (US$10) in his pocket. He had a vision to try something new. At that time, locals considered Chuan Chuan Xiang street food—a far cry from upmarket fare. Diners might snack on a skewer while walking along the road or sit on a stool around a shoddy table in the open air. In respect to traditional food, Yuan shattered the stereotype, taking Chuan Chuan Xiang off the street and into a spacious and bright environment with comfortable tables and chairs.

At the same time, Yuan introduced the concept of self-service, letting customers pick the number and variety of ingredients they wanted to put in their hot pot to create their own individualized meal. It gradually caused a historic transformation of Chuan Chuan Xiang. The local traditional street food has evolved into a healthier and higher-end offering. In this regard, Yuan can be considered the father of China's modern Chuan Chuan Xiang.

Today, Yuan's Chuan Chuan Xiang operates more than 400 restaurants across China and abroad, and more than three billion skewers are consumed annually. With its franchise strategy featuring "Copy+Integration+Sharing," the brand pursues a philosophy of "simplification, standardization and specialization." In recent years, 10 to 20 new Yuan's Chuan Chuan Xiang restaurants open every month nationwide, covering 960 square kilometers in total across China.

Yuan Gang, the founder of Yuan's Chuan Chuan Xiang

With the franchise's success firmly established at home, Yuan has set his sights further afield, and Yuan's Chuan Chuan Xiang is the first of its kind to expand operations overseas. So far, it has opened a restaurant in Vancouver and in Sydney to acclaim, and a third restaurant in Amsterdam is scheduled to open soon.

China is now the second-largest economy in the world, and at the same time the popularity of Chinese food continues to grow across the globe. Under supportive measures such as the "Belt and Road" initiative promoted by the Chinese government to enhance regional connectivity, the beauty and charms of China's heritage are unfolding to a worldwide audience.

From his humble beginnings, Yuan has forged ahead to expand Chinese food culture in the global marketplace. The history of the founding and development of Yuan's Chuan Chuan Xiang is a vivid reflection of Chinese people's life and struggles, epitomizing the various enterprises in China that began as something small and went on to grow and flourish before finally stepping out into the global arena.

Yuan's Chuan Chuan Xiang

PING AN INSURANCE

financial institution in the world has this: 436 million internet users, 166 million financial services customers.

What's behind Ping An's transformation into a technology-based insurance group? How did it get started?

Five years ago we already had our own proprietary facial recognition team; four years ago we started working on voiceprint. Whatever the language, Spanish or Sichuanese, as long as we have 20 seconds of your voice, we can translate it into a mathematical matrix as unique as your thumbprint. Our brain can only remember the voices of about 150 people. Our system can recognize unique voices of 100,000 people.

In the last three years, our system has been trained to recognize micro-expressions, the tiniest movement of our eye muscles and around the lips, within milliseconds. We use this in our real-life loan interview done on the mobile app by our credit assessors who ask random questions just to see if a borrower is lying—more than 80% positive prediction rate.

As a financial services and healthcare provider, we need to verify who the customers are when everything is done on the mobile. The MIT computer science-artificial intelligence lab dedicated a professor to work on a project with us over the past four years.

How do you pick businesses to focus on?

A big problem in China is the lack of affordable, good-quality primary care, very different from Taiwan, Hong Kong or Singapore, where one can just walk into a medical center to see a doctor.

Offline, we built a technology platform that set standards for outside clinics—65,000 of them now—to standardize customer records, set pharmacy and medication and procurement standards, with links to social security.

In the city of Chongqing, where over 60% of people are likely to contract chronic inflammatory lung disease, with the ministry of health's in-depth study of health records we built an AI-powered system to predict the likelihood of a person of getting this disease based on records, including home-life conditions, such as a house with an open chimney (three times more at risk) as opposed to a modern ventilation system.

Much of the group's technology is homegrown. How have you managed to pool talent, the right strategy and execution? Do you have an incubation center in Shanghai?

We no longer have an incubation center. We have top-down and bottom-up approaches. The top-down is at the beginning to identify where we want to be. Then we set up a company. The bottom-up is the management team tasked to get the business off the ground. We close down underperforming companies.

We can bring a lot to auto insurance—we are China's second-largest auto insurer and its largest auto-dealer financier and the largest in car financing. We bought New York-listed Autohome two years ago, the only business we did not build from scratch. We turned it into a car portal from an advertisement media company, increasing its size by 3.5 times in two years.

In smart cities, we worked in Shenzhen to ease traffic congestion. Last year traffic jams during the Golden Week lasted 21.7 hours. This year it was zero, after the Shenzhen traffic police used our technology for congestion management.

"OUR INVESTIGATORS WOULD ARRIVE AT THE ACCIDENT WITHIN FIVE TO TEN MINUTES 90% OF THE TIME, EVEN FASTER THAN AN AMBULANCE OR POLICE."

You have a core competence in handling city traffic?

Our insurance claims ratio is the lowest in the industry, helped by our AI capabilities covering 360 Chinese cities. In a car accident in China, drivers—a lot of them first-time drivers—have to stay there for traffic police to handle the liability allocation.

Our investigators would arrive at the site within five to ten minutes 90% of the time, even faster than an ambulance or police—no small feat and only possible with technology. Our AI capabilities can predict where accidents are likely. We analyze the past 20 years of auto claims for what the likelihood of

GLOBAL 2000

GENERAL GROWTH PROPERTIES	US	1050	▼
GENERAL INS CORP OF INDIA	IN	1624	● (new)
GENERAL MILLS	US	499	▼
GENERAL MOTORS	US	439	▼
GENERALI	IT	136	▲
GENTING	MA	1811	▼
GENUINE PARTS	US	928	▼
GENWORTH FINANCIAL	US	904	▲
GEORGE WESTON	CA	718	▼
GF SECURITIES	CN	787	▼
GFNORTE	MX	548	▲
GILEAD SCIENCES	US	197	▼
GIVAUDAN	SZ	1199	▲
GJENSIDIGE FORSIKRING	NO	1653	▼
GKN	UK	1064	▲
GLAXOSMITHKLINE	UK	226	▼
GLENCORE INTERNATIONAL	SZ	64	▲
GLOBAL PAYMENTS	US	1387	▲
GOLDCORP	CA	1274	▲
GOLDMAN SACHS	US	60	▼
GOODMAN	AU	1587	▼
GOODYEAR	US	1434	▼
GPT (DIVERSIFIED FINANCIAL)	AU	1910	▼
GRAND INDUSTRIAL	CN	1828	● (new)
GRASIM INDUSTRIES	IN	1076	▲
GREAT EAGLE	HK	1546	● (new)
GREAT WALL MOTOR	CN	803	▼
GREE ELECTRIC APPLIANCES	CN	294	▲
GREENLAND HOLDINGS	CN	341	▼
GREENTOWN CHINA	CN	1547	▲
GRIFOLS	SP	1122	▲
GROUP 1 AUTOMOTIVE	US	1976	▼
GRUPA PZU	PL	770	▲
GRUPO ACS	SP	532	▼
GRUPO AVAL	CO	774	▼
GRUPO BIMBO	MX	1345	▼
GRUPO BOLIVAR	CO	1720	▼
GRUPO DE INVERSIONES SURAMERICANA	CO	1674	▼
GRUPO GALICIA	AR	1785	▲
GRUPO INBURSA	MX	1073	▼
GRUPO MEXICO	MX	581	▲
GRUPO TELEVISA	MX	1695	▼
GRUPO ZULIANO	VZ	1914	▼
GS ENGINEERING	KO	1819	▲
GS HOLDINGS (CONGLOMERATE)	KO	1032	▲
GUANGDONG INVESTMENT	HK	1597	▲
GUANGD WENS FOODSTUFFS	CN	973	▼
GUANGZHOU AUTO	CN	691	▲
GUANGZHOU R&F	CN	725	▲
GUANGZHOU RURAL COMMERCIAL BANK	CN	1092	● (new)
GUDANG GARAM	ID	1494	▼
GUNMA BANK	JA	1620	▼
GUOCO	HK	1608	▲
GUOSEN SECURITIES	CN	1042	▼
GUOTAI JUNAN SECURITIES	CN	696	▼
H LUNDBECK	DE	1890	● (new)
H&M	SW	583	▼
HACHIJUNI BANK	JA	1590	▲
HAINAN AIRLINES	CN	1108	▲
HAITONG SECURITIES	CN	730	▼
HAKUHODO DY (MEDIA)	JA	1961	▼
HAL TRUST	MC	1024	▼
HALKBANK	TU	873	▲
HALLIBURTON	US	743	▼
HALYK BANK	KZ	1595	● (new)
HANA FINANCIAL	KO	436	▲
HANG LUNG	HK	1501	▼
HANKYU HANSHIN	JA	1115	▼
HANWA	JA	1760	▲
HANWHA	KO	851	▼
HANWHA CHEMICAL	KO	1420	▼
HARBIN BANK	CN	1154	▼
HAREL INS INV & FIN SERVICES	IS	1821	● (new)
HARRIS	US	1191	▼
HARTFORD FIN SERVICES	US	656	▼
HASEKO	JA	1647	▲
HCA	US	275	▼
HCL TECHNOLOGIES	IN	936	▲
HCP	US	1988	▼
HDFC	IN	321	▲
HDFC BANK	IN	202	▲
HEIDELBERGCEMENT	GE	496	▼
HEILAN HOME	CN	1938	● (new)
HEINEKEN	NE	390	▼
HELLA KGAA HUECK	GE	1803	▲
HELLENIC PETROLEUM	GR	1736	▲
HELVETIA	SZ	1095	▼
HENDERSON LAND	HK	607	▲
HENGAN INTL	CN	1755	▼
HENGLI PETROCHEMICAL	CN	1833	▼
HENKEL	GE	293	▼
HENRY SCHEIN	US	1275	▼
HERMÈS INTERNATIONAL	FR	844	▼
HERO MOTOCORP	IN	1583	▲
HERSHEY	US	995	▼
HERTZ GLOBAL	US	1519	▼
HESS	US	1238	▼
HESTEEL	CN	1212	▼
HEWLETT PACKARD ENTERPRISE	US	316	▼
HEXAGON	SW	1255	▲
HIKVISION	CN	835	▲
HILTON	US	775	▼
HINDALCO INDUSTRIES	IN	1186	▼
HINDUSTAN PETROLEUM	IN	951	▼
HIROSHIMA BANK	JA	1601	▼
HITACHI	JA	149	▲
HNA TECHNOLOGY	CN	1231	▼
HOKKAIDO ELECTRIC POWER	JA	1917	▼
HOKKOKU BANK	JA	1795	▲
HOKUHOKU FINANCIAL	JA	1543	▼

▲ UP ▼ DOWN
● UNCHANGED ● NEW
ASIAN COMPANIES ARE IN RED TYPE

accidents is at different times of the day and week, weather conditions. We are building a platform for accidents in all cities. We will be consolidated onto this platform, and drivers can, instead of waiting for the traffic police, take pictures of the accident, upload them, with our AI modules analyzing the degree of damage, and the liability [is determined]—as straightforward as you can go.

About 90% of cases can be streamlined. We built these services over 20 years in a repository for claims for everything, from the cost of every auto part in different cities and the labor cost involved and fraud, with the help of car mechanics in constructing these models.

How would you prevent the contagion effect of risks spreading across various financial units—banking, insurance, online lending, brokerage?

Each of our units has its own regulators, with capital ratios for each of them publicly available and run as separately legal entities to answer to their own regulators. You can say they are operated independently.

Cross-selling is a feature of Chinese finance.

China is not like a developed market where people tend to cherry-pick individual services. The 1.4 billion people of China have varying degrees of financial-services awareness, capability and trust. Each of our apps has a magic gate to this one portal, which links hundreds of [our] systems. Our view is: "One customer, multiple products, one-stop shop, one account."

But we have strict rules about cross-selling by cold calling. One business unit cannot give away the customer information to another unit. Our insurance agents, 1.39 million of them, build trust with policyholders and that can lead to the sale of the Ping An credit cards, for instance. We don't cross-sell, per se, because it is unthinkable for a person, even our life insurance agents, to be proficient in so many products. That is why everything is on the app. And we try to make sure that everything can be done online.

Right now, China is imposing new regulations on financial conglomerates. On the other hand, the market is opening up to new foreign investment. Would this have the potential of changing how Ping An operates?

I am not in a position to speculate on regulatory or future regulatory matters.

Do you plan to expand outside of China?

We believe the models and technology are replicable. Foreign banks are using our OneConnect services, good for retail risk assessment. Our OneConnect and Lufax, the peer-to-peer lender, already opened an office in Singapore.

What's the end goal? What shape will Ping An take down the road?

In the next ten years, our strategy is very clear: to have our core financial services businesses continue to grow. We want to provide financial services as well as technology expertise. When we first started to do this, frankly, there was internal debate and worries that we would be helping our competitors. Peter [Ma] was very strong in saying that we want to serve the entire market, we don't want just ourselves to be very good. This is something that we stuck to throughout the past ten years, and we will continue to do for the next ten years. Our consumer lending was completely offline four years ago. Now it's completely online.

At my former employer, McKinsey, there were in the past very clear sectors—functional, vertical and horizontal. These days everything is blurred. Technology has reached into all parts of business and is changing them. Technology used to be a sector of its own—now it pervades everything.

When we set up insurance, we learned from AIA; we learned from other models. These things that we are creating now don't exist in the world.

Chairman Ma founded Ping An with investment from state-owned China Merchants Group in the mid-1980s. Does the state still have influence?

Peter was a human resources manager at China Merchants, but we were not a state-owned company. We have no representatives from the government on our board—we are completely a publicly listed company.

In state-owned enterprises, there are state representatives in the management—we never have had any shareholder in our 30 years send representatives to the management team. They have board representation, yes.

We do have government stakes investing in us because we are a very good investment. F

GLOBAL 2000

HOLLYFRONTIER	US	917	▲
HOME DEPOT	US	121	▼
HON HAI PRECISION	TA	105	▼
HONDA MOTOR	JA	58	▲
HONEYWELL INTERNATIONAL	US	210	▼
HONG KONG EXCHANGES	HK	756	▲
HONG LEONG FINANCIAL	MA	1568	▼
HOPSON DEVELOPMENT	HK	1579	▲
HORMEL FOODS	US	958	▼
HOST HOTELS & RESORTS	US	1238	▼
HOYA (ELECTRONICS)	JA	1166	▼
HP	US	247	▲
HSBC	UK	17	▲
HUA NAN FINANCIAL	TA	1458	▼
HUADIAN POWER INTL	CN	1283	▼
HUANENG LANCANG RIVER HYDROPOWER	CN	1701	NEW
HUANENG POWER INTL	CN	745	▼
HUATAI SECURITIES	CN	736	▲
HUAXIA BANK	CN	289	▼
HUBEI BIOCAUSE PHARMA	CN	1691	NEW
HUISHANG BANK	CN	900	▲
HUMANA	US	306	▲
HUNAN VALIN STEEL	CN	1266	NEW
HUNTINGTON BANCSHARES	US	712	▲
HUNTINGTON INGALLS IND	US	1452	▼
HUNTSMAN	US	1322	▲
HUSKY ENERGY	CA	721	▲
HYAKUGO BANK	JA	1750	▼
HYAKUJUSHI BANK	JA	1808	▼
HYATT HOTELS	US	1806	NEW
HYDRO ONE	CA	1456	▼
HYOSUNG	KO	1740	▼
HYUNDAI ENGINEERING	KO	1450	▼
HYUNDAI GLOVIS	KO	1472	▼
HYUNDAI HEAVY INDUSTRIES	KO	1182	▼
HYUNDAI MARINE & FIRE	KO	1137	▼
HYUNDAI MOBIS	KO	443	▼
HYUNDAI MOTOR	KO	147	▼
HYUNDAI STEEL	KO	923	▼
IBERDROLA	SP	146	▼
IBM	US	67	▼
ICA GRUPPEN	SW	1589	▼
ICBC	CN	1	●
ICICI BANK	IN	320	▼
IDBI BANK	IN	1618	▼
IDEMITSU KOSAN	JA	711	▲
IDEXX LABORATORIES	US	1878	NEW
IHI (CAPITAL GOODS)	JA	1542	▼
IHS MARKIT	UK	1211	▲
IIDA (CONSTRUCTION)	JA	1416	▼
ILIAD	FR	1597	▼
ILLINOIS TOOL WORKS	US	535	▼
ILLUMINA	US	1250	▲
IMPERIAL TOBACCO	UK	361	▼
INCHCAPE	UK	1903	▲
INDIABULLS HOUSING FINANCE	IN	1517	▲
INDIAN BANK	IN	1934	▲
INDIAN OIL	IN	270	▼
INDIAN OVERSEAS BANK	IN	1871	▼
INDITEX	SP	289	▼
INDORAMA VENTURES	TH	1289	▲
INDUSIND BANK	IN	1650	▼
INDUSTRIAL ALLIANCE INS	CA	1180	▲
INDUSTRIAL BANK	CN	62	▲
INDUSTRIAL BANK OF KOREA	KO	588	▲
INDUSTRIES QATAR	QA	1245	▼
INDUSTRIVARDEN	SW	1454	▼
INFINEON TECHNOLOGIES	GE	842	▲
INFOSYS	IN	653	▼
ING	NE	56	▼
INGERSOLL RAND	IR	619	▼
INGREDION	US	1759	▼
INMOBILIARIA COLONIAL	SP	1900	NEW
INNER MONGOLIA BAOTOU STEEL	CN	1058	▲
INNER MONGOLIA YILI	CN	867	▲
INNER MONGOLIA YITAI	CN	1601	NEW
INNOLUX	TA	1201	▲
INPEX (OIL & GAS)	JA	916	▲
INSURANCE AUSTRALIA	AU	885	▲
INTACT FINANCIAL	CA	1066	▲
INTEL	US	49	▲
INTER RAO	RU	1173	▼
INTERACTIVE BROKERS	US	1017	▲
INTERCONTINENTAL HOTELS	UK	1583	▲
INTERCONTINENTALEXCHANGE	US	472	▼
INTERNATIONAL AIRLINES	UK	413	▼
INTERNATIONAL PAPER	US	382	▲
INTERPUBLIC	US	1344	▼
INTESA SANPAOLO	IT	61	▲
INTL FCSTONE	US	1555	▲
INTUIT	US	979	▲
INTUITIVE SURGICAL	US	1107	▲
INVENTEC	TA	1786	▲
INVESCO	US	907	▲
INVESTEC	UK	1070	▲
INVESTOR AB	SW	515	▼
INVITATION HOMES	US	1661	NEW
IPG PHOTONICS	US	1926	NEW
IQVIA	US	663	▲
ISBANK	TU	677	▼
ISETAN MITSUKOSHI	JA	1841	▼
ISRAEL DISCOUNT BANK	IS	1603	▲
ISS	DE	1932	▼
ISUZU MOTORS	JA	773	▼
ITAÚ UNIBANCO	BR	45	▼
ITAÚSA	BR	818	▼
ITC (FOOD, DRINK & TOBACCO)	IN	772	▲
ITOCHU	JA	206	▲
ITV	UK	1928	▼
IYO BANK	JA	1656	▲
J SAINSBURY	UK	872	▼

▲ UP ▼ DOWN
● UNCHANGED ● NEW
ASIAN COMPANIES ARE IN RED TYPE

THE RETOOLING OF STANLEY BLACK & DECKER

Jim Loree wants to turn a 175-year-old manufacturer into a company as innovative as any in Silicon Valley.

BY AMY FELDMAN

In 2014 Stanley Black & Decker set up engineers in a Towson, Maryland, strip-mall office with instructions to come up with something new in cordless power tools. Three months later, James Loree, chief operating officer and chief-exec-in-waiting, had a look.

The Towson engineers demonstrated a clever way to arrange cells in a battery to make the voltage adjustable. Loree asked what they would need to get the battery out the door in a year. The reply: $30 million. "I looked at the CFO and said, 'Are we good for that?' and he said, 'You bet,' and off they went with their $30 million," Loree says.

Stanley is an ancient firm, still making tape measures in the rust-belt Connecticut city of New Britain where Frederick Stanley opened a hinge-and-bolt shop in 1843. How does a company survive for 175 years? By throwing money at long shots like that battery. Says Loree, "History

JAMEL TOPPIN FOR FORBES

Handyman: Stanley Black & Decker CEO Jim Loree says he expects some cannibalization of the company's other brands from Craftsman's tools, but "sometimes you have to disrupt yourself."

GLOBAL **2000**

JB HUNT TRANSPORT SVCS	US	1162	▲
JABIL CIRCUIT	US	1614	▲
JACCS (BUSINESS SERVICES)	JA	1894	▲
JACOBS ENGINEERING	US	1499	▲
JAPAN AIRLINES	JA	789	▼
JAPAN EXCHANGE	JA	1040	▲
JAPAN POST	JA	319	▼
JAPAN SECURITIES	JA	1805	▲
JAPAN TOBACCO	JA	257	▼
JARDINE MATHESON	HK	177	▼
JB FINANCIAL	KO	1799	▲
JBS	BR	1037	▼
JC PENNEY	US	1912	▼
JD.COM	CN	650	▲
JERONIMO MARTINS	PO	1158	▼
JETBLUE AIRWAYS	US	1438	▼
JFE	JA	501	▲
JG SUMMIT	PH	1506	▼
JIANGSU HENGRUI MEDICINE	CN	1305	▲
JIANGSU YANGHE BREWERY	CN	1090	▲
JIANGSU ZHONGNAN CONST	CN	1793	●
JIANGXI COPPER	CN	1249	▼
JINKE PROPERTY	CN	1898	●
JM SMUCKER	US	944	▼
JOHNSON & JOHNSON	US	145	▼
JOHNSON CONTROLS INTL	IR	296	▲
JOHNSON MATTHEY	UK	1243	▲
JOINT STOCK COMM BANK FOR FOREIGN TRADE OF VIETNAM	VE	1294	▲
JOINTOWN PHARMA	CN	1967	●
JONES LANG LASALLE	US	1855	●
JPMORGAN CHASE	US	3	▲
JSW STEEL	IN	1039	▲
JTEKT (MANUFACTURING)	JA	1523	▲
JULIUS BAER	SZ	878	▲
JUROKU BANK	JA	1707	▼
JXTG (OIL & GAS)	JA	223	▲
JYSKE BANK	DE	1349	▼
KAISA (CONSTRUCTION)	CN	1492	●
KAJIMA	JA	820	▲
KANGMEI PHARMACEUTICAL	CN	1320	▲
KANSAI ELECTRIC POWER	JA	449	▼
KANSAS CITY SOUTHERN	US	1453	▲
KAO (HOUSEHOLD PRODS)	JA	686	▼
KASIKORNBANK	TH	710	▼
KAWASAKI HEAVY INDUSTRIES	JA	1495	▼
KB FINANCIAL	KO	219	▲
KBC ANCORA	BE	1941	▼
KBC	BE	244	▲
KDDI (TELECOM)	JA	144	▼
KEIYO BANK	JA	1794	▲
KELLOGG	US	672	▲
KEPPEL (SEE PAGE 40)	SI	1634	▼
KERING	FR	349	▲
KERRY	IR	1101	▲
KERRY PROPERTIES	HK	1259	▲
KESKO	FI	1927	▲
KEYCORP	US	527	▲
KEYENCE	JA	824	▲
KIA MOTORS	KO	584	▼
KIMBERLY-CLARK	US	539	▼
KINDER MORGAN	US	679	▼
KINGBOARD CHEMICAL	HK	1799	▲
KINGFISHER	UK	1044	▼
KINNEVIK	SW	1285	●
KINTETSU (TRANSPORTATION)	JA	1470	▼
KION	GE	1195	▲
KIRIN	JA	505	▲
KIYO BANK	JA	1819	▼
KLA-TENCOR	US	1375	▼
KLEPIERRE	FR	948	▼
KOBE STEEL	JA	1049	▲
KOÇ	TU	717	▼
KOHL'S	US	919	▲
KOITO MANUFACTURING	JA	1215	▲
KOMATSU	JA	393	▲
KONE	FI	839	▼
KONKA	CN	1865	▼
KOREA ELECTRIC POWER	KO	295	▼
KOREA GAS	KO	1134	▲
KOREA INVESTMENT	KO	1521	▲
KOREA ZINC	KO	1834	▼
KOREAN AIR	KO	1088	▲
KOTAK MAHINDRA BANK	IN	627	▲
KPN	NE	1111	▼
KRAFT HEINZ COMPANY	US	126	▼
KROGER	US	326	▼
KRUNG THAI BANK	TH	1078	▼
KT (TELECOM)	KO	1056	▼
KT&G (FOOD, DRINK & TOBACCO)	KO	1406	▼
KUBOTA	JA	547	▼
KUEHNE & NAGEL INTL	SZ	863	▼
KUWAIT FINANCE HOUSE	KU	1029	▼
KUWAIT PROJECTS	KU	1924	▼
KWEICHOW MOUTAI	CN	468	▲
KWG PROPERTY	HK	1746	▼
KYOCERA	JA	612	▼
KYUSHU ELECTRIC POWER	JA	837	▼
KYUSHU FINANCIAL	JA	1568	▲
L BRANDS	US	1081	▼
L3 TECHNOLOGIES	US	963	▼
LABCORP	US	758	▲
LAFARGEHOLCIM	SZ	608	▼
LAM RESEARCH	US	687	▲
LAND SECURITIES	UK	1822	▼
LANXESS	GE	1627	▲
LARGAN PRECISION	TA	1287	▼
LARSEN & TOUBRO	IN	471	▲
LAS VEGAS SANDS	US	418	▲
LATAM AIRLINES	CH	1399	▼
LAURENTIAN BANK	CA	1858	▲

▲ UP ▼ DOWN
● UNCHANGED ● NEW
ASIAN COMPANIES ARE IN RED TYPE

LEAR	US	780	▲
LEG IMMOBILIEN	GE	1647	○
LEGAL & GENERAL	UK	187	●
LEGEND	CN	692	▼
LEGRAND	FR	1063	▲
LEIDOS	US	1502	▲
LENDLEASE	AU	1197	▼
LENNAR	US	655	▲
LENOVO	HK	1080	▼
LEONARDO	IT	1290	▼
LEUCADIA NATIONAL	US	1052	▼
LG CHEM	KO	474	▲
LG	KO	748	▲
LG DISPLAY	KO	778	▼
LG ELECTRONICS	KO	411	▲
LG HOUSEHOLD & HEALTH CARE	KO	1247	▲
LG INTERNATIONAL	KO	1982	○
LG UPLUS	KO	1490	▲
LI & FUNG	HK	1849	▼
LIBERBANK	SP	1774	▲
LIBERTY BROADBAND	US	1153	▲
LIBERTY EXPEDIA	US	1310	▼
LIBERTY GLOBAL	UK	735	▼
LINCOLN NATIONAL	US	379	▼
LINDE	GE	352	▼
LINDT & SPRUNGLI	SZ	1560	▼
LINK REIT	HK	817	▲
LIUZHOU IRON & STEEL	CN	1907	▼
LIVE NATION ENTERTAINMENT	US	1686	▲
LIXIL (CONSTRCT MATERIALS)	JA	1147	▼
LKQ	US	1328	▼
LLOYDS BANKING	UK	94	▲
LOCKHEED MARTIN	US	208	▼
LOEWS	US	488	▲
LOGAN PROPERTY	CN	1387	▲
LONDON STOCK EXCHANGE	UK	751	▲
LONGFOR PROPERTIES	CN	494	▲
LONGI GREEN ENERGY TECH	CN	1659	▼
LONZA	SZ	1074	▲
L'ORÉAL	FR	207	▼
LOTTE CHEMICAL	KO	700	▲
LOTTE SHOPPING	KO	1231	▼
LOWE'S	US	211	▼
LUKOIL	RU	98	▲
LUNDBERGS	SW	1454	▼
LUNDIN PETROLEUM	SW	1695	○
LUXOTTICA	IT	793	▼
LUZERNER KANTONALBANK	SZ	1856	▲
LUZHOU LAO JIAO	CN	1672	○
LYONDELLBASELL INDUSTRIES	UK	291	▲
M&T BANK	US	536	▼
MAANSHAN IRON & STEEL	CN	1390	○
MACQUARIE	AU	375	▼
MACY'S	US	729	▲
MAGNA INTERNATIONAL	CA	391	▲
MAGNIT	RU	1152	▼
MAGNITOGORSK IRON & STEEL	RU	1214	▲
MAHINDRA & MAHINDRA	IN	826	▲
MAKITA	JA	1709	▲
MALLINCKRODT	UK	1427	○
MANPOWER	US	1297	▼
MANULIFE	CA	184	▼
MAPFRE	SP	566	▼
MARATHON OIL	US	1359	▼
MARATHON PETROLEUM	US	216	▲
MARINE HARVEST	NO	1846	▼
MARKEL	US	1102	▼
MARKS & SPENCER	UK	1845	▼
MAROC TELECOM	MO	1509	○
MARRIOTT INTERNATIONAL	US	421	▲
MARSH & MCLENNAN	US	500	▼
MARTIN MARIETTA MATERIALS	US	1478	▲
MARUBENI	JA	348	▲
MASCO	US	1314	▼
MASHREQ BANK	AE	1463	▼
MASRAF AL RAYAN	QA	1483	▼
MASTERCARD	US	367	▲
MATCH	US	1952	▼
MATERIALS IND ZHONGDA	CN	1203	▲
MAXIM INTEGRATED PRODUCTS	US	1662	▼
MAXIS	MA	1779	▼
MAYBANK	MA	394	▼
MAZDA MOTOR	JA	739	▼
MCCORMICK	US	1308	▲
MCDONALD'S	US	241	▼
MCKESSON	US	170	▲
MEBUKI FINANCIAL	JA	1398	▼
MEDIATEK	TA	1001	▼
MEDIOBANCA	IT	934	▲
MEDIPAL	JA	1389	▼
MEDTRONIC	IR	154	▼
MEGA FINANCIAL	TA	865	▼
MEIJI (FOOD, DRINK & TOBACCO)	JA	1181	▼
MERCK	GE	308	▼
MERCK & CO.	US	191	▼
MERCURIES & ASSOCIATES	TA	1504	▲
MERITZ FINANCIAL	KO	1392	▲
MERLIN PROPERTIES	SP	1486	▲
METALLURGICAL CO OF CHINA	CN	510	▼
METALURGICA GERDAU	BR	1614	▼
METLIFE	US	78	▲
METRO	CA	1167	▲
METRO	GE	1041	○
METROPOLITAN BANK & TRUST	PH	1750	▼
METTLER-TOLEDO INTL	US	1885	▼
MGM RESORTS	US	576	▲
MICHAEL KORS	UK	1864	▼
MICHELIN	FR	405	▼
MICROCHIP TECHNOLOGY	US	1788	▲
MICRON TECHNOLOGY	US	221	▲
MICROSOFT	US	20	▼
MIDEA	CN	245	▲
MIGDAL INSURANCE	IS	1480	▲
MINEBEA	JA	1488	○
MIRAE ASSET DAEWOO	KO	1299	▲
MIRAE ASSET LIFE INSURANCE	KO	1947	○
MITSUBISHI	JA	112	▲
MITSUBISHI CHEMICAL	JA	441	▼
MITSUBISHI ELECTRIC	JA	298	▼
MITSUBISHI ESTATE	JA	564	▼
MITSUBISHI HEAVY INDUSTRIES	JA	575	▲
MITSUBISHI MATERIALS	JA	1424	▼
MITSUBISHI MOTORS	JA	810	▲
MITSUBISHI UFJ FINANCIAL	JA	37	▼
MITSUBISHI UFJ LEASE	JA	1133	▼
MITSUI	JA	183	▲
MITSUI CHEMICALS	JA	1339	▲
MITSUI FUDOSAN	JA	399	▼
MITSUI OSK LINES	JA	1401	▼
MIZRAHI TEFAHOT BANK	IS	1527	▼
MIZUHO FINANCIAL	JA	114	▼
MMI	SA	1559	▲
MOHAWK INDUSTRIES	US	929	▼
MOL HUNGARIAN OIL	HU	921	▲
MOLINA HEALTHCARE	US	1674	▲
MØLLER-MAERSK	DE	587	▼
MOLSON COORS BREWING	US	672	▼
MONDELEZ INTERNATIONAL	US	211	▲
MONDI	UK	1132	▼
MONSANTO	US	427	▼
MONSTER BEVERAGE	US	1175	▼
MOODY'S	US	1095	▲
MORGAN STANLEY	US	50	▲
MOSAIC	US	1372	▼
MOSCOW EXCHANGE	RU	1667	▼
MOTHERSON SUMI SYSTEMS	IN	1698	▲
MOTOROLA SOLUTIONS	US	1541	▼
MS&AD INSURANCE	JA	334	▼
MSCI	US	1993	○
MTN	SA	1069	▼
MTR (TRANSPORTATION)	HK	545	▲
MTU AERO ENGINES	GE	1831	○
MUNICH RE	GE	279	▼
MURATA MANUFACTURING	JA	632	▼
MURPHY USA	US	1881	▲
MUSASHINO BANK	JA	1840	▼
MYLAN	UK	652	▼
NAN YA PLASTICS	TA	617	▲
NANJING IRON & STEEL	CN	1990	▼
NANTO BANK	JA	1735	▼
NANYA TECHNOLOGY	TA	1412	▲
NARI TECHNOLOGY DEV	CN	1657	○
NASDAQ	US	1204	▲
NASPERS	SA	531	▲
NATIONAL AUSTRALIA BANK	AU	125	▼
NATIONAL BANK OF CANADA	CA	529	▲
NATIONAL BANK OF GREECE	GR	1616	▼
NATIONAL BANK OF KUWAIT	KU	809	▼
NATIONAL COMMERCIAL BANK	SU	455	▼
NATIONAL GRID	UK	249	▼
NATIONAL OILWELL VARCO	US	1209	▼
NATIXIS	FR	347	▼
NAVER	KO	1316	▼
NAVIENT	US	1409	▼
NEC	JA	1010	▼
NESTE OIL	FI	784	▲
NESTLE	SZ	48	▼
NETAPP	US	1578	▲
NETEASE	CN	823	▼
NETFLIX	US	602	▲
NEW CHINA LIFE INSURANCE	CN	402	▼
NEW RESIDENTIAL INVESTMENT	US	1324	▲
NEW WORLD DEVELOPMENT	HK	585	▲
NEW YORK COMMUNITY	US	1472	▼
NEWELL BRANDS	US	544	▲
NEWMONT MINING	US	1099	▼
NEWS CORP	US	1642	▼
NEXON	JA	1493	○
NEXT	UK	1435	▼
NEXTERA ENERGY	US	182	▲
NH FOODS	JA	1964	▼
NH INVESTMENT & SECURITIES	KO	1830	▲
NIDEC	JA	591	▲
NIELSEN	US	1329	▼
NIKE	US	344	▼
NINE DRAGONS PAPER	HK	1373	○
NINTENDO	JA	660	▲
NIPPON EXPRESS	JA	1416	▼
NIPPON PAINT	JA	1795	▼
NIPPON PAPER INDUSTRIES	JA	1915	▼
NIPPON STEEL & SUMITOMO METAL	JA	304	▲
NIPPON STEEL TRADING	JA	1697	▲
NIPPON TELEGRAPH & TEL	JA	46	▼
NIPPON YUSEN	JA	1337	▼
NISHI-NIPPON FINANCIAL	JA	1571	▲
NISOURCE	US	1825	▼
NISSAN MOTOR	JA	97	▼
NITORI	JA	1310	▼
NITTO DENKO	JA	1147	▲
NKT	DE	1874	▼
NN	NE	318	▲
NOBLE ENERGY	US	1416	▼
NOBLE	HK	1600	▼
NOKIA	FI	632	▼
NOMURA	JA	307	▼
NOMURA RESEARCH INSTITUTE	JA	1704	▲
NORDEA BANK	SW	199	▼
NORDSTROM	US	1370	▼
NORFOLK SOUTHERN	US	377	▲

▲ UP ▼ DOWN
● UNCHANGED ○ NEW
ASIAN COMPANIES ARE IN RED TYPE

STANLEY

Mercuries & Associates 1504

Mercuries started as a humble exporter of handicrafts in 1965. It has since diversified into retail businesses including restaurants and department stores as well as the life insurance, pharmaceutical and computer equipment sectors. The group's life insurer, Taiwan's eighth largest, contributed 78% of its revenues last year, followed by 9% from retail. Company chairman Henry Chen, 53, took the helm upon his father's death in 2004. His three younger brothers run subsidiaries. The Chens own a combined quarter stake with cofounder Chao-Hsi Weng's family taking another 25%. In May, Japan's Sumitomo Corp. agreed to buy 22% of the group's supermarket chain Simple Mart for $41 million following an earlier drugstore partnership. Sumitomo will help Simple Mart double its store count by 2023, from 630 now. The island's second-largest chain reported double-digit growth with $355 million in 2017 sales.

is littered with stories about legacy companies that were complacent, inwardly focused, arrogant."

Stanley's variable-voltage battery didn't reach stores until June 2016, but it looks like a winner. Lithium-ion batteries are getting big enough these days to run not just hand-held drills but also standing equipment like table saws. The big tools, though, need a much higher voltage to operate efficiently. The designers in Maryland figured out how to make batteries interchangeable by having the tool tell the battery what kind of juice it wants.

By this trick Stanley gets carpenters addicted not just to its tools but also to its batteries, which retail for up to $199 apiece. They'll pay extra to be able to build a house without lugging a noisy generator to the job site and tripping over power cords. Stanley is hauling in $300 million a year on its FlexVolt batteries and wants to see a lot more breakthroughs, meaning innovations that will each add $100 million or more to revenue.

Loree, 59, who has been running the company for two years, is a finance guy, not an engineer. He joined General Electric in 1980 as an auditor and spent 19 years there, mostly at GE Capital. In 1999 John Trani, the GE alum then running Stanley Works, brought Loree in as chief financial officer.

Trani was trying to turn around a troubled company whose $2.75 billion of revenue came mostly from hand tools like tape measures and builders' hardware like hinges. Recalls Loree: "It couldn't ship effectively. It had a weak supply chain. Almost all the things you could think of that could go wrong for the company were going wrong."

Slowly, Stanley did turn itself around, and in 2002 began an acquisition binge. Loree's financial skills paid off. In 2009 chief executive John Lundgren, urged on by Loree, engineered the acquisition of Black & Decker, a century-old maker of power tools. Despite the fact that Black & Decker was larger (in employee count), Stanley was the top dog in the merger.

Loree has worked on more than 100 acquisitions at Stanley, and since taking over as CEO has spent $3 billion buying businesses. Recent deals gave him Irwin drill bits and Lenox saw blades, bought from Newell, and Craftsman, a venerable but tired brand bought from Sears.

IMAGINECHINA

Sears never made tools, but it knew where to have them made. In olden times Craftsman was a revered product line, with loyal do-it-yourselfer fans who would talk about how they were still using the Craftsman drill or sander that granddad had bought. Under the Eddie Lampert regime at Sears the line decayed, collapsing from $2 billion in wholesale revenue to less than $1 billion. Loree paid around $900 million last year to get the name, a few employees and about $100 million in sales to Ace Hardware. No assembly lines went with the transaction.

"We were staring at this brand potentially being released into our world, which would be a huge threat from a volume point of view if a retailer got it or if one of our arch competitors got it," Loree says.

Sears had long ago outsourced its power-tool manufacturing to Asian suppliers. Loree is going to bring most of the work home to Stanley Black & Decker's 30 U.S. factories. This may be a financially challenging goal, given that compensation for Stanley's roughly 8,000 factory-floor and distribution-center workers in the U.S. is mostly between $10 and $25 an hour. But it will allow the company to cut down on shipping costs and reduce the risk from Trump's tariffs.

Stanley's archenemy on the hardware store shelf is Techtronic Industries, a Hong Kong-listed firm that has done a skillful job of marrying American brands like Milwaukee and Homelite to Chinese production lines. A contractor looking at the Milwaukee display in Home Depot may think his drill comes from Wisconsin. It likely was made in Guangdong.

Loree aims to get some mileage out of the American flavor of his revival plan for Craftsman. Craftsman tape measures will be added to the production lines at the 12-acre New Britain factory now making 5.5 million Stanley FatMax tape measures a year. "We have a sense of history in this company," Loree says. "Bringing the products up to a new standard with a real emphasis on 'Made in America' is a huge deal with many of our end users."

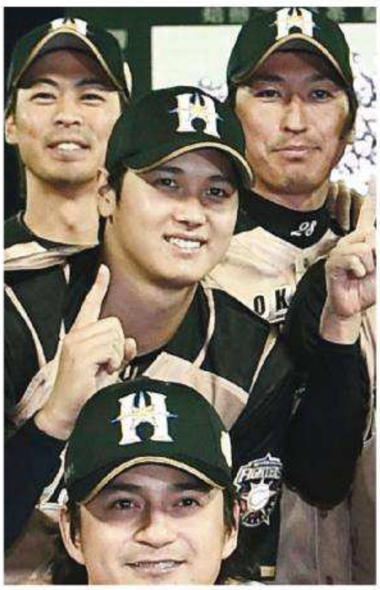
Craftsman power tools, hand tools and tool chests will be sold via Lowe's, Ace hardware stores and Amazon. Susquehanna Financial Group analyst Robert Barry estimates that this line will hit the $1 billion mark in 2023.

Additional growth will come from emerging markets, which Loree wants to push up from 14% of Stanley's $13 billion in annual revenue to 20%, in part by creating products specifically geared toward those countries' needs, such as tools for metalworking in Mexico. He sees opportunities to fill in gaps in Stanley's product lineup, such as in abrasives, tools in Japan, and lawn and garden products. It already gets revenue from such diversifications as motion-activated doors and industrial-fastener systems. His goal is to crank up revenue to $22 billion by 2022.

Stanley's advanced manufacturing center, slated to open in August in Connecticut's sickly capital city of Hartford, will test new technologies, including 3-D metal printing that might someday allow a tool company to print out products in retail outlets. If there's any future in American manufacturing Stanley is going to be part of it. F

NH Foods 1964

A household name in Japan, the Osaka food manufacturer once known as Nippon Ham had a bullish run last year. The bacon and sausage maker's net profit also surged by 61%, partly from higher sales in its processed-foods business. NH Foods rolled out a slew of new products, including its new grilled Kiwami-yaki hamburger patty and a soup version of its bestselling Schau Essen sausage. The producer also raised its profile at home by celebrating the success of its Hokkaido baseball club, which won the 2016 Japan Series. And it is increasingly venturing abroad. NH Foods plans to tap into Malaysia's large halal food market. It has set up NHF Manufacturing, a joint venture with Malaysian poultry producer Lay Hong. The unit's factory on Pulau Indah island's Selangor Halal Hub awaits completion.



KYODO/NEWSCOM

GLOBAL 2000

NORILSK NICKEL	RU	660	▼
NORSK HYDRO	NO	733	▲
NORTH PACIFIC BANK	JA	1586	▲
NORTHERN TRUST	US	562	▲
NORTHROP GRUMMAN	US	305	▼
NORWEGIAN CRUISE LINE	US	1186	●
NOVATEK	RU	551	▼
NOVO NORDISK	DE	408	▼
NOVOLIPETSK STEEL	RU	861	▲
NOVOZYMES	DE	1612	▼
NRG ENERGY	US	1146	▲
NSK (MANUFACTURING)	JA	1485	▼
NTPC	IN	512	▼
NUCOR	US	615	▲
NUERNBERGER BETEILIGUNGS	GE	1769	▼
NUTRIEN	CA	884	🟠
NVIDIA	US	572	▲
NVR	US	1393	▲
NXP SEMICONDUCTORS	NE	649	▲
OBAYASHI	JA	885	▲
OCCIDENTAL PETROLEUM	US	353	▲
OCEANWIDE	CN	1464	▲
OGAKI KYORITSU BANK	JA	1731	▼
OI	BR	1718	▼
OIL & NATURAL GAS	IN	266	▼
OJI (MATERIALS)	JA	1421	▲
OLAM INTERNATIONAL	SI	1326	▲
OLD DOMINION FREIGHT LINE	US	1712	🟠
OLD MUTUAL	UK	445	▼
OLD REPUBLIC INTL	US	1599	▼
OLIN	US	1878	🟠
OLYMPUS	JA	1357	▼
OMNICOM	US	624	▼
OMRON	JA	1293	▲
OMV	AS	752	▲
ON SEMICONDUCTOR	US	1406	🟠
ONEOK	US	815	▲
ONEX	CA	1006	▼
ONO PHARMACEUTICAL	JA	1812	▼
OOREDOO TELECOM	QA	1248	▼
ORACLE	US	107	▼
ORANGE	FR	192	▲
O'REILLY AUTOMOTIVE	US	888	▼
ORIENT	JA	1745	▼
ORIENT SECURITIES	CN	1179	▲
ORIENTAL BANK OF COMMERCE	IN	1880	▼
ORIENTAL LAND	JA	1190	▼
ORIGIN ENERGY	AU	1116	▲
ORIX (BUSINESS SERVICES)	JA	254	▲
ORKLA	NO	1868	▼
ORSTED	DE	537	▲
OSAKA GAS	JA	1302	▼
OTP BANK	HU	952	▲
OTSUKA	JA	630	▼
OVERSEA-CHINESE BANKING	SI	284	▲
PACCAR	US	483	▲
PACKAGING CORP OF AMERICA	US	1333	▲
PACWEST BANCORP	US	1887	▼
PALO ALTO NETWORKS	US	1870	🟠
PANASONIC	JA	231	▼
PANDORA	DE	1448	▼
PARKER-HANNIFIN	US	709	▲
PARTNERS	SZ	1300	▲
PAYCHEX	US	1200	▼
PAYPAL	US	337	▲
PBF ENERGY	US	1381	▲
PEARSON	UK	1608	▲
PEGATRON	TA	1093	▼
PEMBINA PIPELINE	CA	1053	▲
PENSKE AUTOMOTIVE	US	1242	▲
PEOPLE'S INSURANCE	CN	227	▼
PEOPLE'S UNITED BANK	US	1669	▼
PEPSICO	US	102	▼
PERFORMANCE FOOD	US	1727	▲
PERNOD RICARD	FR	458	▼
PERSIMMON	UK	1410	▲
PETRO RABIGH	SU	1554	▲
PETROBRAS	BR	243	▲
PETROCHINA	CN	30	▲
PETRONAS CHEMICALS	MA	1268	▲
PEUGEOT	FR	259	▲
PFIZER	US	44	▲
PG&E	US	389	▼
PGE POLSKA GRUPA ENERGET	PL	1360	▼
PGNIG	PL	1026	▲
PHILIP MORRIS INTERNATIONAL	US	193	▼
PHILIPS	NE	383	▼
PHILLIPS 66	US	150	▲
PHOENIX	UK	1229	▼
PING AN INSURANCE	CN	10	▲
PINNACLE WEST	US	1679	▼
PIONEER NATURAL RESOURCES	US	788	▲
PIRAEUS BANK	GR	1606	▼
PKN ORLEN	PL	713	▼
PKO BANK POLSKI	PL	845	▲
PNC FINANCIAL SERVICES	US	134	▲
POLY REAL ESTATE	CN	269	▲
POLYUS GOLD	RU	1552	🟠
POPULAR	US	1791	▲
PORSCHE AUTOMOBIL	GE	675	▲
POSCO (STEEL)	KO	228	▲
POSTAL SAV BANK OF CHINA	CN	56	▼
POSTE ITALIANE	IT	450	▲
POU CHEN (APPAREL)	TA	1836	▲
POWER ASSETS	HK	1137	▼
POWER FINANCE	IN	1834	▼
POWER GRID OF INDIA	IN	904	▼
PPG	US	592	▲
PPL	US	639	▼
PRAXAIR	US	553	▼
PRESIDENT CHAIN STORE	TA	1163	▲
NOVARTIS	SZ	63	▼

▲ UP ▼ DOWN
● UNCHANGED 🟠 NEW
ASIAN COMPANIES ARE IN RED TYPE

TECH'S ULTIMATE SECOND ACT

Facing 50, Fred Luddy lost his job and his fortune. But in applying the lessons of his failures, he made ServiceNow the most innovative company in America—and himself a late-career billionaire.

BY KATHLEEN CHAYKOWSKI AND MARK COATNEY

Vegas being Vegas, fans have crammed the Venetian Hotel for selfies with a graying celebrity working his way through the scrum: Fred Luddy, the 63-year-old founder of ServiceNow, America's hottest IT-services company. Neither Wayne Newton nor Celine Dion, Siegfried nor Roy, has anything on Luddy in Sin City this day, at least among the 18,000 customers, vendors and employees in town for Knowledge, ServiceNow's annual developers conference.

"When all of these people are happy to see you, honestly you feel like a rock star," says the sparkly-eyed Luddy, having booked extra time between appearances to grip-and-grin with the adoring hordes. "It's kind of an undeserved feeling, because they were the inspiration. You folks had all of the ideas. I just wrote them down and thought about them."

Forgive Luddy such indulgences. Fourteen years ago, he was pretty much broke, having seen a $35 million personal fortune vanish overnight in the midst of accounting fraud at his previous company. Thirteen years ago he was a one-man shop, tinkering with ServiceNow's core product from his home. Even after the vindication of an IPO six years ago, the company was worth a modest $2 billion.

These days ServiceNow, of Santa Clara, California, maintains a $30 billion market cap, has 6,000-plus employees—and is ranked 1,640 on the Global 2000 list. Its more than 4,000 customers include 850 of the Global 2000. Last year it had revenues of $1.93 billion, and growth is expected

Fred Luddy at his beachfront home in Del Mar, California. Success has meant more time to spend with his 10-year-old son and to work on his next project: making U.S. healthcare more affordable and efficient.

ETHAN PINES FOR FORBES

PRINCIPAL FINANCIAL	US	351	▼
PROCTER & GAMBLE	US	55	▼
PROGRESSIVE	US	317	▲
PROLOGIS	US	744	▼
PROXIMUS	BE	1459	▼
PRUDENTIAL	UK	66	▲
PRUDENTIAL FINANCIAL	US	73	▼
PTT (OIL & GAS)	TH	156	▲
PTT GLOBAL CHEMICAL	TH	819	▲
PUBLIC BANK	MA	646	▼
PUBLIC SERVICE ENTERPRISE	US	497	▲
PUBLIC STORAGE	US	1020	▼
PUBLICIS E	FR	697	▲
PULTE	US	1422	▼
PUNJAB NATIONAL BANK	IN	1184	▼
PVH	US	1207	▲
QANTAS AIRWAYS	AU	1126	▲
QATAR ISLAMIC BANK	QA	1369	▼
QATAR NATIONAL BANK	QA	237	▼
QBE INSURANCE	AU	983	▼
QINGDAO HAIER	CN	565	▲
QUALCOMM	US	560	▼
QUANTA COMPUTER	TA	1020	▼
QUEST DIAGNOSTICS	US	1110	▼
QUINENCO	CH	1341	▼
QURATE RETAIL	US	771	▼
RAIFFEISEN BANK INTL	AS	622	▲
RAJESH EXPORTS	IN	1562	▼
RAKUTEN	JA	777	▲
RAMSAY HEALTH CARE	AU	1797	▼
RANDSTAD	NE	891	▲
RAYMOND JAMES FINANCIAL	US	840	▲
RAYTHEON	US	313	▼
REALTY INCOME	US	1723	▼
RECKITT BENCKISER	UK	282	▲
RECRUIT	JA	586	▲
RED ELÉCTRICA	SP	1425	▼
RED HAT	US	1651	▲
RED STAR MACALLINE	CN	1519	▲
REGENERON PHARMA	US	927	▲
REGIONS FINANCIAL	US	557	▼
REINSURANCE GRP OF AMER	US	590	▲
RELIANCE INDUSTRIES	IN	83	▲
RELIANCE STEEL	US	1467	▲
RELX	UK	594	▼
REMGRO	SA	1808	▼
RENAULT	FR	135	▲
RENESAS ELECTRONICS	JA	1079	▲
RENTOKIL INITIAL	UK	1726	●
REPSOL	SP	233	▲
REPUBLIC SERVICES	US	676	▲
RESONA	JA	557	▼
RESTAURANT BRANDS INTL	CA	847	▲
REXEL	FR	1668	▼
RHB BANK	MA	1448	▼
RICHEMONT	SZ	487	▼
RICOH	JA	1205	▼
RIO TINTO	UK	111	▲
RISESUN REAL ESTATE DEV	CN	1093	▲
RITE AID	US	1595	▼
RIYAD BANK	SU	910	▲
RMB	SA	1832	●
ROCHE	SZ	93	▼
ROCKWELL AUTOMATION	US	1320	▼
ROCKWELL COLLINS	US	804	▲
ROGERS COMMUNICATIONS	CA	589	▲
ROLLS-ROYCE	UK	341	▲
RONGSHENG PETROCHEMICAL	CN	1568	●
ROPER TECHNOLOGIES	US	993	▲
ROSNEFT	RU	73	▲
ROSS STORES	US	734	▲
ROSSETI	RU	739	▲
ROYAL AHOLD DELHAIZE	NE	280	▲
ROYAL BANK OF CANADA	CA	42	▲
ROYAL BANK OF SCOTLAND	UK	168	▲
ROYAL CARIBBEAN CRUISES	US	629	▼
ROYAL DUTCH SHELL	NE	11	▲
ROYAL MAIL	UK	1395	▲
RSA INSURANCE	UK	1205	▲
RTL	LU	1145	▼
RURAL ELECTRIFICATION	IN	1298	▼
RUSHYDRO	RU	1777	▼
RWE	GE	315	▲
RYANAIR	IR	813	▼
RYDER SYSTEM	US	1496	●
S&P GLOBAL	US	854	▼
SF HOLDING (BUSINESS SVCS)	CN	860	▲
SABANCI	TU	779	▼
SABESP	BR	1902	▼
SAFARICOM	KE	1817	●
SAFRAN	FR	284	▲
SAIC MOTOR	CN	80	▲
SAINT-GOBAIN	FR	296	▼
SAIPEM	IT	1733	▼
SALESFORCE.COM	US	856	▲
SAMBA FINANCIAL	SU	807	▼
SAMPO	FI	459	▲
SAMSUNG C&T	KO	485	▲
SAMSUNG ELECTRONICS	KO	14	▲
SAMSUNG FIRE & MARINE	KO	568	▼
SAMSUNG LIFE INSURANCE	KO	338	▼
SAMSUNG SDI	KO	1169	▲
SAMSUNG SDS	KO	1230	▲
SAMSUNG SECURITIES	KO	1909	●
SANAN OPTOELECTRONICS	CN	1628	●
SANDVIK	SW	727	▲
SAN-IN GODO BANK	JA	1764	▼
SANLAM	SA	702	▲
SANOFI	FR	117	▼
SANY HEAVY INDUSTRY	CN	1671	●
SAP	GE	181	▼
SAPUTO	CA	1129	▼
SASOL	SA	509	▲

▲ UP ▼ DOWN
● UNCHANGED ● NEW
ASIAN COMPANIES ARE IN RED TYPE

GLOBAL **2000**

SAUDI ARABIAN MINING	SU	1373	▲
SAUDI BASIC INDUSTRIES	SU	120	▼
SAUDI BRITISH BANK	SU	894	▲
SAUDI ELECTRICITY	SU	355	▲
SAUDI INVESTMENT BANK	SU	1983	▼
SAUDI TELECOM	SU	396	▼
SBA COMMUNICATIONS	US	1876	▲
SBERBANK	RU	47	▲
SBI (DIVERSIFIED FINANCIALS)	JA	1575	▲
SCENTRE	AU	802	▼
SCHAEFFLER	GE	848	▼
SCHINDLER	SZ	913	▼
SCHLUMBERGER	US	520	▼
SCHNEIDER ELECTRIC	FR	256	▼
SCHRODERS	UK	1034	▲
SCOR	FR	1035	▼
SDIC ESSENCE	CN	1653	▼
SDIC POWER	CN	1353	▼
SEAGATE TECHNOLOGY	IR	968	▲
SEARS	US	1747	▼
SEB AB	SW	433	▼
SEB SA	FR	1631	▼
SECOM (BUSINESS SVCS)	JA	902	▼
SECURITAS	SW	1989	▼
SEGRO	UK	1505	●
SEI INVESTMENTS	US	1996	●
SEIKO EPSON	JA	1887	▼
SEKISUI CHEMICAL	JA	1397	▼
SEKISUI HOUSE	JA	670	▼
SEMBCORP INDUSTRIES	SI	1971	●
SEMPRA ENERGY	US	768	▼
SENSHU IKEDA	JA	1772	▼
SERVICENOW	US	1640	▲
SES	LU	1900	▼
SEVEN & I	JA	263	▲
SEVERSTAL	RU	982	▲
SGS	SZ	1160	▼
SHAANXI COAL INDUSTRY	CN	855	▲
SHANDONG CHENMING PAPER	CN	1775	●
SHANDONG GOLD MINING	CN	1898	▼
SHANGHAI COMM & SAV BANK	TA	1525	▼
SHANGHAI CONSTRUCTION	CN	1068	▲
SHANGHAI ELECTRIC	CN	943	▲
SHANGHAI FOSUN PHARMA	CN	1662	▲
SHANGHAI GANGLIAN E-COMM	CN	1960	●
SHANGHAI INTL AIRPORT	CN	1471	▲
SHANGHAI INTL PORT	CN	760	▲
SHANGHAI LUJIANZI	CN	1931	▼
SHANGHAI PHARMACEUTICALS	CN	896	▲
SHANGHAI PUDONG DEV	CN	70	▼
SHANXI TAIGANG STAINLESS	CN	1332	▲
SHARP	JA	783	▲
SHENGJING BANK	CN	881	▼
SHENWAN HONGYUAN	CN	899	▼
SHENZHEN INVESTMENT	HK	1852	●
SHENZHEN OVERSEAS	CN	1002	▲
SHENZHOU INTL	CN	1472	▲
SHERWIN-WILLIAMS	US	498	▲
SHIGA BANK	JA	1727	▲
SHIMAO PROPERTY	HK	747	▲
SHIMIZU	JA	1008	▼
SHIN KONG FINANCIAL	TA	1005	▲
SHIN-ETSU CHEMICAL	JA	434	▲
SHINHAN FINANCIAL	KO	273	▼
SHINSEI BANK	JA	1365	▼
SHIONOGI	JA	1280	▼
SHIRE	IR	246	▲
SHISEIDO	JA	1225	▲
SHIZUOKA BANK	JA	1348	▲
SHOPRITE	SA	1325	▲
SHOWA SHELL SEKIYU	JA	1414	▲
SIAM CEMENT	TH	654	▼
SIAM COMMERCIAL BANK	TH	623	▼
SICHUAN CHANGHONG ELEC	CN	1938	●
SIEMENS	GE	51	▼
SIGNATURE BANK	US	1710	▼
SIGNET JEWELERS	BU	1973	▼
SIKA	SZ	1131	▲
SIME DARBY	MA	1535	▼
SIME DARBY PLANTATION	MA	1624	●
SIMON PROPERTY	US	597	▼
SINGAPORE AIRLINES	SI	1119	▼
SINGTEL	SI	354	▼
SINO BIOPHARMACEUTICAL	HK	1828	●
SINO LAND	HK	1472	▲
SINOHYDRO	CN	381	▼
SINO-OCEAN LAND	CN	1147	▲
SINOPAC FINANCIAL	TA	1715	▼
SINOPEC	CN	27	▼
SINOPHARM	CN	651	▼
SINOTRANS	CN	1985	●
SINOTRUK HONG KONG	CN	1862	●
SISTEMA	RU	1482	▼
SK (IT SOFTWARE)	KO	281	▲
SK HYNIX (SEMICONDUCTORS)	KO	200	▲
SK INNOVATION (OIL & GAS)	KO	417	▲
SK NETWORKS (TRADING COS)	KO	1802	▼
SK TELECOM	KO	476	▲
SKANSKA	SW	1356	▼
SKF	SW	1227	▲
SKYWORKS SOLUTIONS	US	1290	▼
SM INVESTMENTS	PH	883	▼
SMC (CAPITAL GOODS)	JA	986	▲
SMITH & NEPHEW	UK	1334	▼
SMURFIT KAPPA	IR	1357	▲
SNAM	IT	964	▼
SNAP-ON	US	1953	▼
SOCIÉTÉ GÉNÉRALE	FR	161	▼
SODEXO	FR	699	▼
SOFTBANK	JA	39	▼
S-OIL	KO	825	▲
SOJITZ	JA	1086	▲
SOLVAY	BE	708	▼
SOMPO	JA	331	▼
SONY	JA	86	▲

to be more than 30% this year. More than 500 companies spend at least $1 million annually on ServiceNow's products.

What are they getting? A simple, flexible workflow that allows employees to easily manage their requests from IT. Much as Salesforce enables a company to manage its external clients by keeping a record of all contacts and interactions (and, increasingly, by telling sales reps what their next step should be), ServiceNow promises an internal system to meet the needs of employees, beating out legacy IT service-management software players like BMC Software, Hewlett Packard Enterprise, Cherwell Software and CA Technologies to claim half of that market.

The special sauce—the thing that gives ServiceNow the fat "innovation premium" that drives our ranking—comes from two product traits with the potential to scale: simplicity and customizability. ServiceNow's IT tools don't require the IT department to set them up. Once running, they offer a single collection center for requests, data points and checklists, all of which can in turn be analyzed by algorithms to predict needs, flag concerns and measure efficiency. Even in a business where renewal rates are commonly at least 90%, ServiceNow stands out at 98%. "They have cemented themselves as the number one IT partner for the biggest companies in the world, and they don't get fired," says Alex Zukin, an analyst at Piper Jaffray. All those traits point to a future beyond just IT services.

But Luddy's triumph also comes from innovation in management: specifically, the rare founder trait of knowing when it's time to step aside and let someone else run your baby. Luddy transitioned from CEO to chief product officer in 2011. "Fred has been a wonderful counselor, coach, friend, as well as someone who challenges us to constantly improve our user experience, constantly make sure our products are easier and easier to use," says the current CEO, John Donahoe, who previously served as CEO of eBay.

"I COULDN'T WAIT, BECAUSE THERE WAS SOMETHING PSYCHOLOGICALLY THAT SAID I COULDN'T START A COMPANY AT 50."

Ego restraint pays, at least on our list, as ServiceNow came out ahead of Facebook, Tesla and a slew of other founder-centric tech giants launched in the same time period. In lieu of brashness, Luddy pushes wisdom, having started ServiceNow at the ripe old age (by tech standards) of 50. Okay, 49 years and 346 days, beating his big birthday by two weeks. "I couldn't wait," he says, "because there was something psychologically that said I couldn't start a company at 50." If anything, Luddy's saga proves that sentiment wrong, with an innovation ingredient that's often undervalued in Silicon Valley: experience.

THE ROOTS OF SERVICENOW'S spectacular rise can be found in the ashes of an IT software-management company called Peregrine Systems, which at one point was valued at more than $4 billion. Over 13 years, Luddy, the CTO, provided the company's engine, but it turned out that the growth came from more specious sources. Peregrine employed several fraudulent methods to inflate its revenue numbers and stock price over a two-year period. In 2002 this former high-flier suddenly filed for bankruptcy, and several top executives, including the CEO, went to prison. Luddy wasn't charged with any wrongdoing in the criminal case, and his $35 million stake vanished overnight.

"I really hated my job," Luddy says, with the perspective that time and a billion dollars will give you. "Losing that money was absolutely the best thing that could have happened." Rather than mope, Luddy decided to take what he hated—IT departments too difficult for the common worker to deal with—and try to make back that lost money and then some. Soon after Luddy's fortune evaporated, he hunkered down in his San Diego home and started work on the product that would become ServiceNow.

Such can-do optimism was a product of New Castle, Indiana, a medium-size Rust Belt town near Indianapolis. His father was an accountant; his mother, a Catholic-school teacher. The young Luddy was, by his own account, an indifferent student, but he was fascinated by machines and took apart everything he could get his hands on. At 17, while working as a gofer at American Standard, he saw an HP computer being installed in the office and begged to use it. With the help of programming guides (and the scarcity, in New Castle in 1972, of anyone with any coding knowledge), Luddy got himself hired as a programmer there ten days later.

His first insight into the power of software to make people's lives better came soon after. He wrote an order-entry program so the company clerk didn't have to keep typing up folding-door order forms with the same information all day. "There is no better experience," he says, remembering that moment, "than giving someone a piece of technology that lets them do something they never thought they could do."

After dropping out of Indiana University (he spent all his time programming instead of going to class), he headed to Silicon Valley and the Amdahl Corp., an early competitor to IBM in the high-end mainframe-computer market.

Even as Peregrine was imploding, Luddy hit on a revolutionary idea he had learned from three decades of programming: As the company's name suggests, he'd deliver office services over the internet on a subscription basis (monthly, per customer), updated easily without requiring customers to manually download software from disks on different operating systems. As this was 2003, Luddy proved to be a software-as-a-service pioneer, pushing a user-friendly interface designed for the average office worker. Luddy's younger brother Rob (who had also worked at Peregrine) came on board in 2005 as the company's first sales representative, and they took the product to market.

The market's response: "Meh."

"We had this really great, simple platform for creating workflows, and we would go to people and say, Hey, you can do all these things with this, and they just weren't interested," recalls Luddy, who at one point sold a car to make payroll. "So we went back and said, Okay, we say this is this great tool for doing things like IT-support management, so why don't we back that up and make an IT-support product?" This time the market bit.

In July 2005, ServiceNow raised its first funds, a $2.5 million Series A round led by JMI Equity (followed by another two rounds, of $11 million total, over the next few years). The company sold its first contract to WagerWorks, an offshore gambling site, in the fall of 2005. Growth proved slow—a few million in revenue during those first years, using a few dozen employees—but very steady.

By the time Sequoia Capital led the firm's $41.4 million Series D in late 2009, managing partner Doug Leone says he had never seen such positive reviews from customers. ServiceNow's revenue was doubling annually, and the company became cash-flow positive, expanding deals with customers like Deutsche Bank, Intel and McDonald's and reaching 100 employees.

It was at this point that Luddy put his ego aside and decided to replace himself. He knew product. He needed a CEO who knew growth. Leone took Luddy on a host of interviews. In the Dutchman Frank Slootman, a non-coddling, no-nonsense executive who had taken Data Domain public before selling it to EMC, Leone saw "a match made in heaven."

Slootman focused on building out the sales team and tailoring the product to larger, higher-paying customers like Johnson & Johnson. "Frank took us from a very large startup," Luddy says, "and he made us into a very large, well-oiled machine, implementing processes and procedures and really scaling out the organization in a way I never could have."

A crossroads came in late 2011, when VMware offered $2.5 billion for the company, according to Leone. Luddy wanted to sell—he thought Service-

Sumec 1996

Debuting on the list at its 40th anniversary, the company (born of state-owned SinoMach) has evolved into a leading Chinese importer-exporter of everything from mechanical-electrical products to apparel and textile to bulk commodity, engineering contracting and investment. Last year it went public in a backdoor listing in Shanghai and reported a 48% rise in revenue to $11.5 billion. The Nanjing-headquartered firm set up its first foreign office in Los Angeles as early as 1987. Nearly a decade later it expanded from machinery into textiles, a sector robust in its base province of Jiangsu. Today its products can be found in Costco, Walmart and other major outlets in the U.S. under various labels (school-uniform line: Eton Kidd). Since opening its first overseas factory, a garment plant, in Myanmar four years ago, Sumec has built sites or made acquisitions across the globe, such as a home-textile maker in the U.S., an auto parts supplier in Germany and a photovoltaic module manufacturer in Turkey.

SDBCHINA / ALAMY STOCK PHOTO

GLOBAL 2000

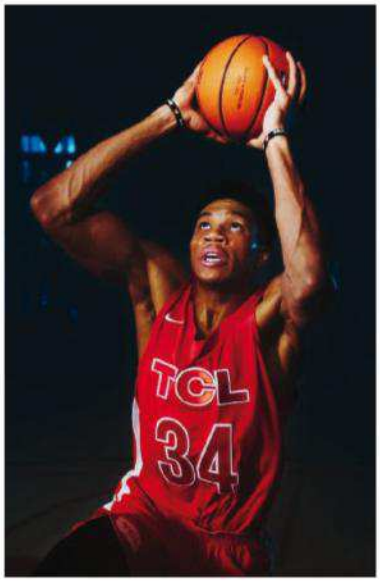
SOUTH32	AU	926	▲
SOUTHERN COMPANY	US	286	▼
SOUTHWEST AIRLINES	US	380	▼
SOUTHWESTERN ENERGY	US	1973	▼
SPIRIT AEROSYSTEMS	US	1887	▼
SPLUNK	US	1941	○
SPOTIFY	LU	1644	○
SQM	CH	1715	○
SQUARE	US	1784	○
SSE	UK	425	▼
ST GALLER KANTONALBANK	SZ	1944	▼
ST JAMES'S PLACE	UK	966	▼
STANDARD BANK	SA	376	▲
STANDARD CHARTERED	UK	309	▲
STANDARD LIFE	UK	438	▲
STANLEY BLACK & DECKER	US	683	▼
STARBUCKS	US	370	●
STARWOOD PROPERTY TRUST	US	1530	▼
STATE BANK OF INDIA	IN	489	▼
STATE STREET	US	292	▼
STEEL AUTHORITY OF INDIA	IN	1928	▲
STEEL DYNAMICS	US	1089	▲
STEINHOFF INTERNATIONAL	NE	775	▼
STMICROELECTRONICS	SZ	954	▲
STOCKLAND AUSTRALIA	AU	1526	▼
STORA ENSO	FI	838	▲
STOREBRAND	NO	1400	▲
STRABAG	AS	1588	▲
STRYKER	US	543	▼
SUBARU	JA	407	▼
SUMEC (MACHINERY)	CN	1996	▼
SUMITOMO	JA	253	▲
SUMITOMO CHEMICAL	JA	705	▲
SUMITOMO ELECTRIC	JA	599	▼
SUMITOMO METAL MINING	JA	987	▲
SUMITOMO MITSUI FINANCIAL	JA	59	▲
SUMITOMO MITSUI TRUST	JA	479	▼
SUMITOMO REALTY	JA	605	▲
SUMITOMO RUBBER	JA	1970	▼
SUN ART RETAIL	HK	1238	▼
SUN HUNG KAI PROPERTIES	HK	267	▼
SUN LIFE FINANCIAL	CA	265	▼
SUN PHARMA INDUSTRIES	IN	1944	▼
SUNAC CHINA	CN	463	▲
SUNCOR ENERGY	CA	202	▲
SUNCORP	AU	637	▼
SUNING APPLIANCE	CN	600	▲
SUNNY OPTICAL TECHNOLOGY	CN	1563	○
SUNSHINE CITY	CN	1783	○
SUNTORY BEVERAGE & FOOD	JA	941	▲
SUNTRUST BANKS	US	336	▼
SUPERVALU	US	1788	▼
SURGUTNEFTEGAS	RU	335	▼
SURUGA BANK	JA	1637	▼
SUZANO PAPEL E CELULOSE	BR	1498	○
SUZUKEN	JA	1658	▼
SUZUKI MOTOR	JA	366	▲
SVB FINANCIAL	US	945	▲
SVENSKA HANDELSBANKEN	SW	460	▼
SWATCH	SZ	906	▲
SWEDBANK	SW	442	▼
SWIRE PACIFIC	HK	491	▲
SWISS LIFE	SZ	469	▼
SWISS RE	SZ	504	▼
SWISSCOM	SZ	561	▼
SYDNEY AIRPORT	AU	1803	▼
SYMANTEC	US	1104	▼
SYNCHRONY FINANCIAL	US	340	▼
SYNDICATE BANK	IN	1786	▼
SYNNEX	US	1712	▲
SYNNEX TECHNOLOGY INTL	TA	1941	▲
SYNOVUS FINANCIAL	US	1987	▼
SYSCO	US	461	▼
SYSMEX	JA	1807	▼
T ROWE PRICE	US	995	▲
T&D (INSURANCE)	JA	634	▼
TAHOE	CN	1893	○
TAISEI	JA	767	▲
TAISHIN FINANCIAL	TA	1439	▲
TAIWAN BUSINESS BANK	TA	1722	▲
TAIWAN COOP FINANCIAL	TA	1255	▼
TAIWAN MOBILE	TA	1791	▼
TAIWAN SEMICONDUCTOR	TA	118	▲
TAKEDA PHARMACEUTICAL	JA	400	▼
TALANX	GE	508	▼
TAPESTRY	US	1814	▼
TARGA RESOURCES	US	1411	▼
TARGET	US	242	▼
TATA CONSULTANCY SERVICES	IN	404	▼
TATA MOTORS	IN	385	▼
TATA STEEL	IN	1007	▲
TATNEFT	RU	577	▲
TAYLOR WIMPEY	UK	1621	▼
TCL (TECH HARDWARE)	CN	1060	▲
TD AMERITRADE	US	769	▲
TD BANK	CA	54	▲
TDK (TECH HARDWARE)	JA	961	▲
TE CONNECTIVITY	SZ	570	▼
TECH DATA	US	1441	▲
TECH MAHINDRA	IN	1912	▲
TECHNIPFMC	UK	936	▲
TECHTRONIC INDUSTRIES	HK	1553	▲
TECK RESOURCES	CA	606	▲
TELECOM ARGENTINA	AR	1985	○
TELECOM ITALIA	IT	378	▼
TELEFÓNICA	SP	123	▼
TELENOR	NO	493	▲
TELIASONERA	SW	723	▼
TELKOM INDONESIA	ID	720	▼
TELSTRA	AU	364	▼
TELUS	CA	681	▼

▲ UP ▼ DOWN
● UNCHANGED ○ NEW
ASIAN COMPANIES ARE IN RED TYPE

TENAGA NASIONAL	MA	503	▼
TENARIS	LU	1055	▲
TENCENT	CN	105	▲
TENET HEALTHCARE	US	1270	▼
TERNA	IT	1189	▼
TERNIUM	LU	1186	▲
TERUMO	JA	1151	▲
TESCO	UK	276	▲
TESLA	US	811	▲
TEVA PHARMACEUTICAL	IS	704	▼
TEXAS INSTRUMENTS	US	412	▼
TEXTRON	US	998	▼
THAI BEVERAGE	TH	1123	▼
THAI OIL	TH	1451	▲
THALES	FR	532	▼
THANACHART CAPITAL	TH	1957	●
THERMO FISHER SCIENTIFIC	US	240	▲
THOMAS COOK	UK	1983	▼
THOMSON REUTERS	CA	555	▼
THOR INDUSTRIES	US	1895	●
THYSSENKRUPP	GE	724	▼
TIME WARNER	US	159	▼
TINGYI	CN	1606	▲
TJX COS	US	445	▼
TOHO BANK	JA	1692	▼
TOHOKU ELECTRIC POWER	JA	1009	▼
TOKIO MARINE	JA	190	▼
TOKYO CENTURY	JA	1118	▲
TOKYO ELECTRIC POWER	JA	414	▲
TOKYO ELECTRON	JA	746	▲
TOKYO GAS	JA	808	▲
TOKYO TY FINANCIAL	JA	1769	▼
TOKYU	JA	971	▼
TOKYU FUDOSAN	JA	1683	▼
TOLL BROTHERS	US	1871	●
TOMONY (BANKING)	JA	1937	▼
TONGLING NONFERR METALS	CN	1923	▼
TONGYANG LIFE INSURANCE	KO	1782	▼
TOP FRONTIER INVESTMENT	PH	1210	▲
TOPPAN PRINTING	JA	1318	▼
TORAY INDUSTRIES	JA	678	▼
TORCHMARK	US	1075	▲
TOSHIBA	JA	749	▲
TOSOH	JA	1543	▲
TOTAL	FR	26	●
TOTAL SYSTEM SERVICES	US	1403	▲
TOWNGAS	HK	959	▼
TOYOTA BOSHOKU	JA	1736	▲
TOYOTA INDUSTRIES	JA	435	▲
TOYOTA MOTOR	JA	12	▼
TOYOTA TSUSHO	JA	473	▲
TP ICAP	UK	1752	▲
TRACTOR SUPPLY	US	1672	▼
TRANSCANADA	CA	360	▲
TRANSDIGM	US	1364	▲
TRANSNEFT	RU	667	▼
TRANSUNION	US	1777	●
TRANSURBAN	AU	1377	▼
TRAVELERS	US	234	▼
TUI	GE	790	▲
TURKISH AIRLINES	TU	1294	▲
TWENTY-FIRST CENTURY FOX	US	198	▼
TWITTER	US	1729	●
TWO HARBORS INVESTMENT	US	1556	▲
TYSON FOODS	US	362	▼
UBI BANCA	IT	1014	▲
UBS	SZ	163	▼
UC RUSAL	CY	1098	▼
UCB	BE	1223	▼
UCO BANK	IN	1948	▼
UGI	US	1383	▼
ULTA SALON COSMETICS & FRAG	US	1341	▲
ULTRAPAR PARTICIPACOES	BR	1312	▼
UMICORE	BE	1309	▲
UNIBAIL-RODAMCO	FR	659	▼
UNICAJA BANCO	SP	1634	●
UNICHARM	JA	1336	▼
UNICREDIT	IT	113	▲
UNILEVER	NE	103	●
UNION BANK OF INDIA	IN	1445	▼
UNION NATIONAL BANK	AE	1740	▼
UNION PACIFIC	US	175	▲
UNIPER	GE	753	▲
UNIPOL GRUPPO	IT	1012	▼
UNI-PRESIDENT	TA	812	▲
UNIQA	AS	1628	▼
UNISPLENDOUR	CN	1839	●
UNITED AIRCRAFT	RU	1822	▼
UNITED CONTINENTAL	US	357	▼
UNITED INTERNET	GE	1349	●
UNITED OVERSEAS BANK	SI	311	▼
UNITED PARCEL SERVICE	US	153	▲
UNITED RENTALS	US	925	▲
UNITED TECHNOLOGIES	US	99	▲
UNITED UTILITIES	UK	1799	▼
UNITEDHEALTH	US	28	▲
UNIVERSAL HEALTH	US	1090	▼
UNUM	US	737	▼
UOL (REAL ESTATE)	SI	1858	▼
UPM-KYMMENE	FI	741	▲
URALKALI	RU	1993	▼
US BANCORP	US	109	▼
US FOODS	US	1273	▲
US STEEL	US	1429	▲
VAKIFBANK	TU	935	▲
VALE	BR	132	▲
VALEANT PHARMACEUTICALS	CA	1315	▼
VALEO	FR	638	▼
VALERO ENERGY	US	173	▲
VEDANTA RESOURCES	UK	1304	▲
VENTAS	US	1082	▼
VEOLIA ENVIRONNEMENT	FR	754	▼
VEON	NE	1576	▼
VERISIGN	US	1608	▲
VERISK ANALYTICS	US	1439	▼

TCL 1060

The world's third-largest television maker is pumping almost $7 billion into a new factory in Shenzhen, where its stock is listed, to ramp up production of its 8K and organic light-emitting-diode (OLED) screens. Its home base of China is the world's largest consumer of 8K—the current highest resolution in ultra-high-definition televisions—and the company plans for a global takeoff. It sold more than 23 million liquid-crystal-display televisions last year and posted overall revenue of $16.5 billion, up 3% from 2016. Besides screens, TCL is also looking to create a clearer brand image in the U.S: It has partnered NBA star Giannis Antetokounmpo in a product-endorsement deal. One of the commercials features Antetokounmpo slam-dunking while wearing a TCL jersey.



Now's product map could thrive within VMware, and the sale would mean financial security—as did much of the board. But Sequoia saw that as "giving the company away," in Leone's words. "We thought ServiceNow had a great product-market fit, a great leadership team," he adds. "They're also in a winner-take-all market—you cannot name the number two company to Salesforce."

Leone saw an easy path to $10 billion and put his money where his mouth was, offering to buy out anyone at the VMware price. Ultimately, no one bit.

At first it was a tough road. For three or four months, Sequoia was not exactly the best friend of the management team, says Leone. But then slowly, the company saw more and more traction in the marketplace. The company went public in June 2012, but it still wasn't any better off than if it had sold to VMware.

Armed with cash from the offering, as well as the ability to issue new shares, Slootman began buying companies to acquire new underlying technology and—much like Salesforce, Microsoft and just about every major technology player—to invest in artificial intelligence. ServiceNow began growing even faster. It had essentially become a one-stop shop for CIOs, centralizing and automating many common IT help-desk tasks like tracking incidents, recovering passwords, requesting equipment, setting up new user accounts, troubleshooting and managing IT systems and responses through simply designed service portals.

By 2016, revenues hit $1.39 billion and the market cap $12.34 billion. But just as Leone had predicted that the company would get to $10 billion, the ServiceNow team saw they could become much, much bigger. Why just service IT departments? ServiceNow's software and reputation meant it could branch out into other areas, from customer service to human resources.

And Luddy had set the tone. Just as Luddy didn't think he could help the company grow past its early stages, Slootman realized that moving deeper into other areas like human resources and security meant ServiceNow needed a different CEO. Last year the company hired former eBay chief John Donahoe, with Luddy kicking himself upstairs from chief product officer to chairman, set to take effect this month.

JOHN DONAHOE most certainly doesn't have an IT background: Before eBay, where he paid particular attention to PayPal, he was the CEO of the consulting giant Bain. But he has a grander vision of the same eureka moment that Luddy had 15 years ago: the need to make complex processes elegant and simple. "Millennials say, Why can I reset my PayPal password in 20 seconds, but to reset my work email takes 20 minutes and a phone call?" Donahoe says. "Consumers want one seamless experience, and employees are the same way."

So Donahoe is taking ServiceNow's networked, easy-to-use IT support system to every corner of an enterprise. Internally called "emerging products," these services help connect every department—from human resources and security to customer service, marketing, legal, finance and facilities—to one shared online database where an organization can analyze and take action on information.

The goal: quintuple sales to $10 billion by becoming the always-on engine behind an employee's work life, from the moment he or she is hired. ServiceNow last year launched a mobile app that handles the complete journey from employees' onboarding through their day-to-day work, relocation, leaves of absence and off-boarding. In a single app employees can find information like where your desk is, who your co-workers are and maps of the office; send questions to their staff coordinator; and address payroll questions and IT issues. In Donahoe's view, getting a new desk phone installed should be just as easy as hailing an Uber or chatting on Snapchat.

"This is not technology in service of technology," Donahoe says. "We want to enhance the quality of the lives of people at work, whether you're an IT help-desk professional or an end user." That's not just providing a pretty interface. "They call it employee experience, but to me it's productivity," says Josh Bersin, who runs an eponymous consultancy within Deloitte. "I don't want an enjoyable experience to renew my 401(k). I just want to do it in one click."

In pivoting, Luddy and Donahoe are competing with a more agile group, which includes Salesforce, Microsoft, IBM and Workday. ServiceNow's sole advantage: the ability to upsell, leveraging its IT-service dominance to layer on related products. Donahoe boosted sales and marketing costs more than 30% last year.

The spending has generated results. ServiceNow projects about $2.4 billion in 2018 subscription revenue, and while the majority of that will still come from growth in the IT side, the "emerging" categories are expected to make up at least a third of new annual contract value this year, up from less than 20% at the beginning of last year. The opportunity presented by these offshoot verticals, estimated at $34 billion by Credit Suisse analyst Brad Zelnick, is even larger than the overall cloud-based IT market, which is about $27 billion.

The next step across all these areas: Use algorithms to take all these requests, data points and checklists and predict needs, flag concerns and measure efficiency. Rather than just streamline service, the company wants to improve automation and analytics through AI. Many innovations come from third-party app builders. (Clients have built about 35,000 custom apps, for example, to track security incidents like shoplifting and broken windows in a retail store, or to track the status of endangered animals in a park.) And much of the growth is expected to come from AI. Last January, ServiceNow spent $15 million to acquire DXContinuum, which is used throughout ServiceNow's cloud platform to help customers build predictive models that make it easier to categorize incoming requests. In May, ServiceNow bought the AI startup Parlo for its technology in natural-language understanding, which the company plans to inject into its core platform to help customers build intelligent business apps, complete with easy-to-create service catalogues, notifications and assignment tools.

None of this means Luddy has let his company lose it roots. His no-frills practicality still manifests itself at ServiceNow's Santa Clara headquarters, which are tidy and sunny but whose manicured trees and outdoor fountains are modest compared to the exaggerated play areas and flashy design of the campuses of Facebook and Apple. When asked to pick a lunch spot recently in his San Diego hometown, the billionaire chose Rudy's Taco Shop, which reminds its customers that shirts and shoes must be worn inside. Luddy, who now finds more time for tennis and his 10-year-old son, was wearing jeans and sneakers. "The last six years have been like this beautiful dream," he says later at his beach house, basking in the afternoon sun. "I give a lot of hugs, but I don't let anyone pinch me." F

IMAGINECHINA

Xiamen Xiangyu 1557

A cog in China's bulk-commodity supply chain, it handled 80 million tons of goods in 2017. Its interests range from agriculture and forestry products to metals and minerals to energy and chemicals, and it aims to build its grain logistics system into the country's biggest by 2020. The state-controlled firm, listed in Shanghai in 2011, rises 228 slots this year after a 71% revenue jump to $32 billion last year. Betting on the revival of China's shipping industry, a year ago it acquired distressed assets to start a shipbuilding subsidiary. The company's 23-year-old parent, conglomerate Xiangyu Group, also has arms in real estate, finance and investment, and is a key developer and operator of the free trade zone in its headquarters city Xiamen, the mainland's major trading hub with Taiwan across the strait.

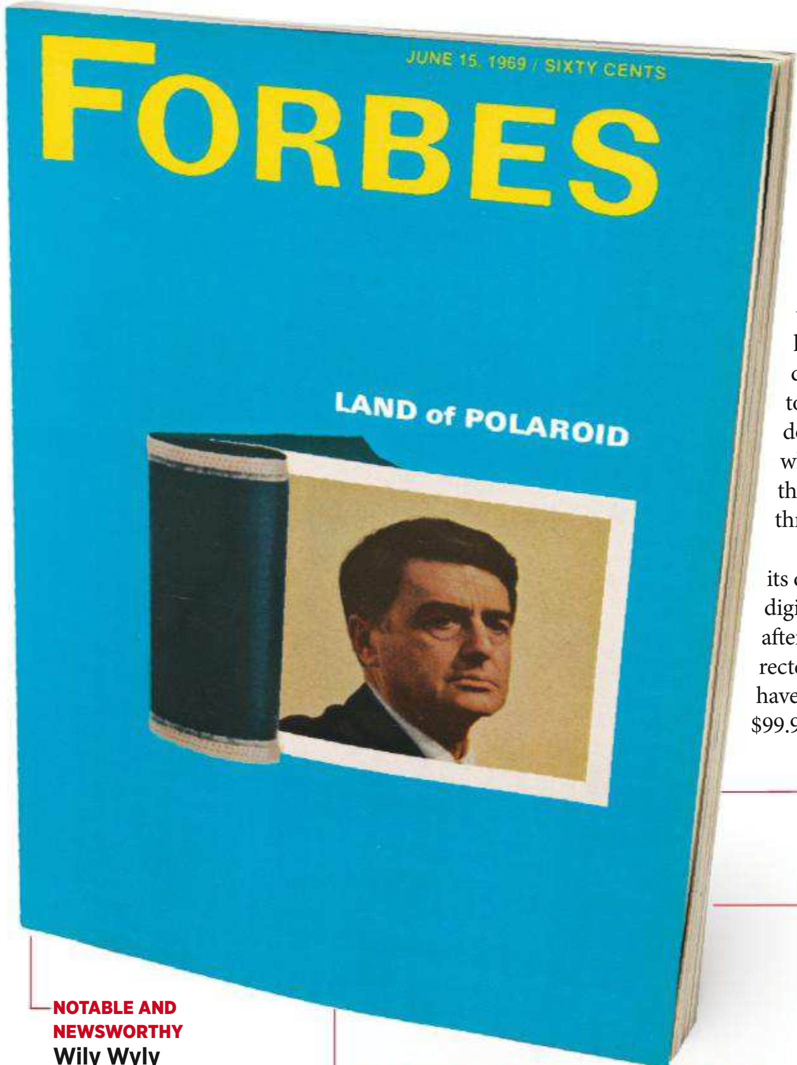
GLOBAL 2000

VERIZON COMMUNICATIONS	US	18	●
VERTEX PHARMACEUTICALS	US	1573	▲
VESTAS WIND SYSTEMS	DE	889	▼
VF	US	868	▼
VIACOM	US	660	▼
VICINITY CENTRES	AU	1532	▼
VIENNA INSURANCE	AS	1164	▼
VIETIN BANK	VE	1719	▼
VINCI	FR	157	▲
VIN (CONSTRUCTION)	VE	1992	▼
VIPSHOP	CN	1683	▲
VIRGIN MONEY	UK	1704	▲
VISA	US	164	▲
VISTRA ENERGY	US	1639	▼
VIVENDI	FR	431	▼
VMWARE	US	780	▼
VODAFONE	UK	454	▼
VOESTALPINE	AS	895	▲
VOLKSWAGEN	GE	16	▲
VOLVO	SW	238	▲
VONOVIA	GE	641	▲
VORNADO REALTY	US	1680	▼
VOYA FINANCIAL	US	974	▼
VTB BANK	RU	396	▲
VULCAN MATERIALS	US	1428	▲
WALGREENS BOOTS ALLIANCE	US	124	▼
WALMART	US	24	▼
WALT DISNEY	US	72	▼
WANHUA CHEMICAL	CN	1250	▲
WANT WANT CHINA	CN	1882	▼
WÄRTSILÄ	FI	1537	▼
WASTE CONNECTIONS	CA	1241	▲
WASTE MANAGEMENT	US	484	▼
WEC ENERGY	US	687	▼
WEICHAI POWER	CN	666	▲
WELLCARE HEALTH PLANS	US	1276	▲
WELLS FARGO	US	7	▼
WELLTOWER	US	1279	▼
WENDEL	FR	1594	▼
WESFARMERS	AU	365	▲
WEST JAPAN RAILWAY	JA	679	▼
WESTERN DIGITAL	US	799	▼
WESTFIELD	AU	972	▼
WESTLAKE CHEMICAL	US	938	▲
WESTPAC BANKING	AU	87	▼
WESTROCK	US	552	▲
WEYERHAEUSER	US	853	▼
WH (FOOD, DRINK & TOBACCO)	HK	715	▼
WHEELOCK	HK	507	▼
WHIRLPOOL	US	1042	▼
WHITBREAD	UK	1736	▼
WILLIAMS	US	528	▲
WILLIS TOWERS WATSON	UK	857	▼
WILMAR INTERNATIONAL	SI	456	▼
WIPRO	IN	909	▼
WIRECARD	GE	1895	●
WISTRON	TA	1564	▲
WM MORRISON SUPERMARKETS	UK	1193	▼
WOLTERS KLUWER	NE	1307	▲
WOODSIDE PETROLEUM	AU	890	▼
WOOLWORTHS	AU	486	▲
WOORI BANK	KO	550	▲
WORKDAY	US	1664	▲
WORLD FUEL SERVICES	US	1548	▲
WORLDPAY	US	1220	●
WPG (SEMICONDUCTORS)	TA	1717	▲
WPP	UK	369	▼
WR BERKLEY	US	1054	▼
WUESTENROT & WUERTTEMB	GE	1305	▼
WULIANGYE YIBIN	CN	924	▲
WW GRAINGER	US	1027	▼
WYNDHAM WORLDWIDE	US	1370	▼
WYNN RESORTS	US	1217	▲
X5 RETAIL	NE	1225	▲
XCEL ENERGY	US	525	▼
XEROX	US	1538	▼
XIAMEN C&D	CN	910	▲
XIAMEN INTL TRADE	CN	1444	▲
XIAMEN XIANGYU	CN	1557	▲
XILINX	US	1514	▼
XINHU ZHONGBAO	CN	1692	●
XINYU IRON & STEEL	CN	1703	●
XL	BU	868	▼
XPO LOGISTICS	US	1127	▲
XYLEM	US	1903	●
YAMADA DENKI	JA	1798	▼
YAMAGUCHI FINANCIAL	JA	1580	▼
YAMAHA	JA	1979	●
YAMAHA MOTOR	JA	921	▲
YAMATO	JA	1432	▼
YANZHOU COAL MINING	CN	671	▲
YARA INTERNATIONAL	NO	1140	▼
YES BANK	IN	1013	▲
YONGHUI SUPERSTORES	CN	1445	▲
YPF	AR	794	▲
YUANTA FINANCIAL	TA	1222	▲
YUM CHINA	US	1228	▼
YUM! BRANDS	US	952	▼
YUNNAN BAIYAO	CN	1545	▲
ZALANDO	GE	1849	●
ZALL DEVELOPMENT	CN	1921	●
ZENITH BANK	NI	1962	▼
ZHEJIANG ZHENENG ELEC POW	CN	1071	▼
ZHONGSHENG	CN	1476	▲
ZHONGYUAN BANK	CN	1268	●
ZIJIN MINING	CN	947	▲
ZIMMER BIOMET	US	618	▲
ZIONS BANCORP	US	980	▲
ZOETIS	US	991	▲
ZTE	CN	682	▲
ZURICH INSURANCE	SZ	110	▼

▲ UP ▼ DOWN
● UNCHANGED ● NEW
ASIAN COMPANIES ARE IN RED TYPE

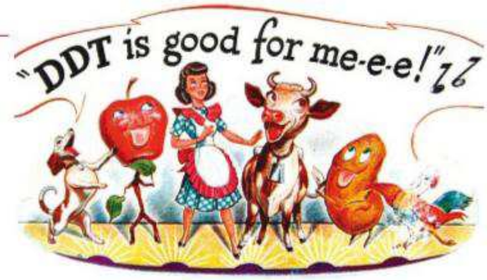
Slow to Develop: June 15, 1969

BY ABRAM BROWN



SHUTTERBUGS PRIZED Polaroids for their instantaneousness. But the company's founder, Edwin Land, a Harvard-educated physicist, certainly did not conduct business at flashbulb speed. He had started Polaroid in 1937 and carefully built it up to more than $240 million in sales (about $1.6 billion in 2018 dollars) by slowly reducing the bulk and price of his cameras. The Polaroid Swinger, released in 1965, was a breakthrough hit, selling 5 million units in two years. (It cost $19.95, roughly $136 today.) Polaroid had also experimented with photocopiers, but the designs didn't impress Land, and he steadfastly refused to release them to the marketplace. "We do not want to do what every Tom, Dick and Xerox can do," said Land, who at the time possessed a fortune equivalent to more than $4 billion today. "We proceed from basic science through applied science to highly desirable products."

Polaroid's plodding pace would ultimately lead to its demise as it was left behind in the consumer shift to digital cameras. It filed for bankruptcy in 2001, a decade after Land died, at age 81. Polaroid has since been resurrected, and in a bid to attract the kinds of customers who have flocked anew to vinyl records, last year it introduced a $99.99 version of its instant-film camera.



NOTABLE AND NEWSWORTHY

Wily Wyly

At 34, Sam Wyly was already displaying the empire-building strategy that would eventually make him a billionaire for a time: Buy up small companies across a given industry and turn them around. By the summer of '69 he had nabbed his latest acquisition: Gulf Insurance.

FROM THE EDITOR'S DESK

Pesticide Pestilence

In the 1950s Malcolm Forbes had lunch in Nassau, the Bahamas, with an entrepreneur named James Rand, who wouldn't touch some offered fruit. Rand wasn't in the chemicals business—he made typewriters—but after watching his wife once fall ill from pesticide-laden food, he assured Malcolm that "we [are] all slowly being poisoned by pesticide." Malcolm recounted the story in a 1969 column that questioned why the U.S. hadn't yet banned DDT.

FAST-FORWARD

Reel Problems

1969: Edgar Bronfman Sr.'s MGM was still struggling to overcome silver-screen flops from years prior, such as *The Mutiny on the Bounty.*

2018: Four years after Edgar Sr.'s death and almost two decades after his son Edgar Jr. committed his own entertainment blunder—selling the clan's Seagram Cos. to Vivendi—the only Bronfman on *Forbes'* billionaires list is Edgar Sr.'s brother, Charles.

AMAZING AD

Land of Machines and Honeywell

Honeywell was determined to make its 14-year-old computer division a success. Just a few weeks later, its machines would help astronauts reach the moon.

TOM PENNINGTON/FORT WORTH STAR-TELEGRAM/MCT/GETTY IMAGES; CAMERIQUE/GETTY IMAGES

Black Magic Powder

The alchemists at Sila Nano have their eyes on a $31 billion—and growing—lithium-ion battery market. They just might get a nice piece of it.

BY ALEX KNAPP

Sila Nanotechnologies has all the trappings of a typical Bay Area startup: an open floor plan, conference rooms named for Atari games, healthy snacks in the kitchen. Two Portuguese water dogs, Ångström and Lumen, rule the boss' office.

Walk through the entrance and open the door, however, and you won't find racks of servers or a foosball table. Instead, you'll see an industrial laboratory, complete with white-suited workers in a clean room. Two-liter furnaces are hooked up to gas lines, computers and chemistry instrumentation. Construction workers are tending a large, mysterious cylinder.

It's all to perfect and then to commercialize a fine black powder in a glass jar resting in the hand of Gene Berdichevsky, 34, the company's cofounder and chief executive. What, exactly, is this powder? That is a secret, although we can tell you that there is some silicon in it and that, if this substance does what it's supposed to do, it will deliver a 40% boost to the energy performance of lithium-ion batteries.

"I think what Intel did for the semiconductor and personal computing industry in the '90s is what we would want to enable in battery technologies," Berdichevsky says grandly.

He has believers. Sila has raised more than $100 million from Samsung Ventures, Bessemer Venture Partners, In-Q-Tel and others. It is partnering with Hong Kong-based Amperex Technology to get its powder into cellphones and wearables like smartwatches as early as 2019. Sila also has a collaboration with BMW for potential use in its cars in the early 2020s.

There's a lot at stake. Batteries that can pack more juice into a given space mean electric cars with a better range and cellphones that don't have to be fed so often. Within a decade, research firm IDTechEx predicts, the market for just the car batteries will be $125 billion a year.

Sila has plenty of rivals. There are several dozen companies redesigning batteries or, like Sila, battery components, most of them startups but some of them giants like Toyota and vacuum maker Dyson. It's possible that the battery tournament will ultimately be won by solid-state batteries, which eliminate the liquid electrolyte typical of today's batteries. For now, though, that competitive threat is remote.

Sila has a less ambitious redesign of the lithium-ion battery under way. Its powder would simply replace the graphite in existing battery technology. "Sila has a significant lead just because of the fact that they're going to have a drop-in manufacturing process," says Sam Jaffe, managing director of Cairn Energy Research Advisors.

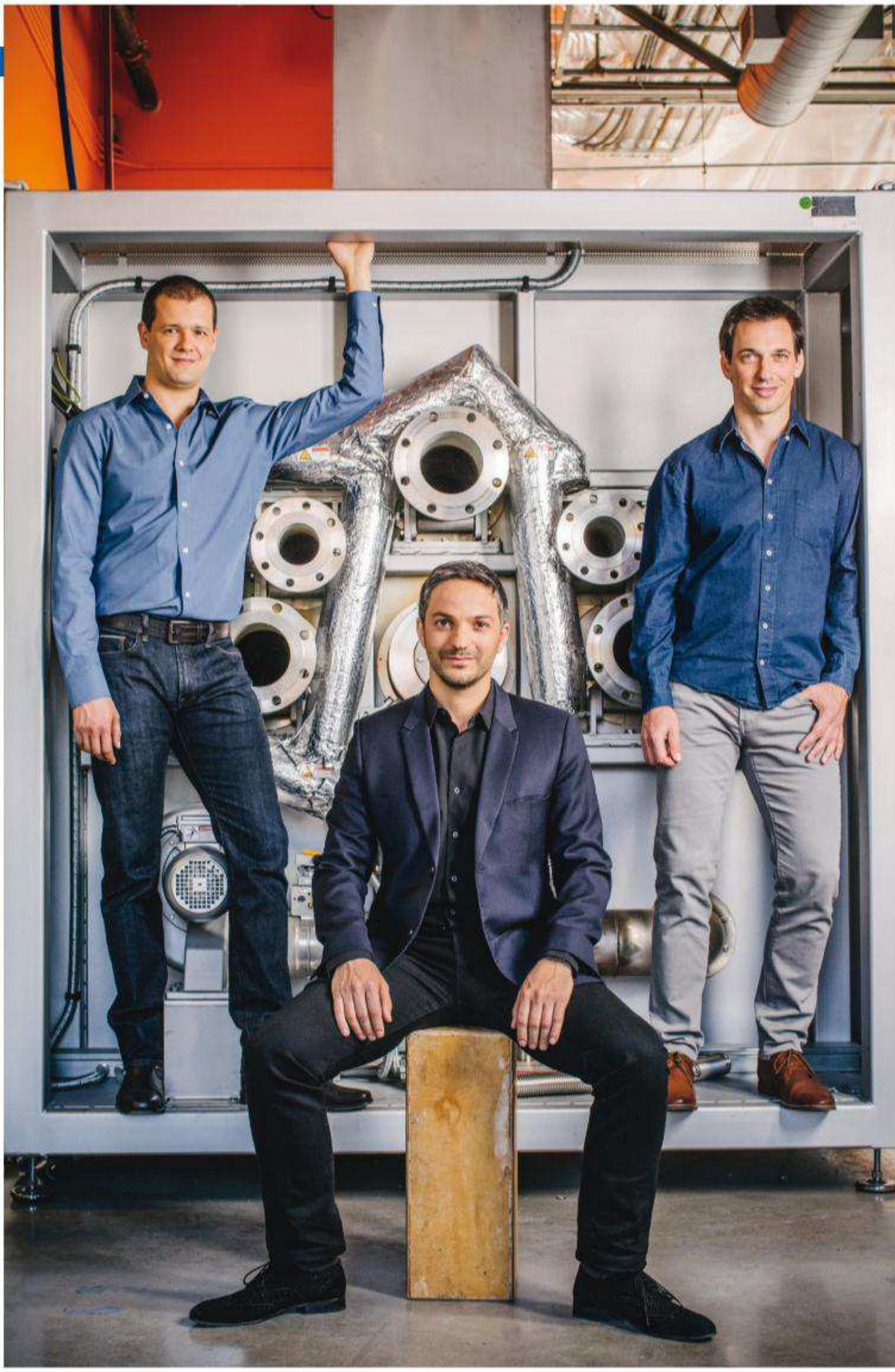
Most lithium-ion batteries use an anode made largely from graphite, a form of carbon that can be either mined or synthesized. When the battery is being discharged, lithium ions depart the anode and move to the cathode, creating an electron flow to power your phone or car motor. When the battery is being charged, the ions reverse course.

Sila's powder beats graphite because silicon can hold significantly more lithium ions than graphite. Silicon is also cheaper than graphite. But there's a catch. When silicon holds lithium ions, it swells fourfold, like a bellows. The shift in volume would drastically shorten the life span of the battery.

To avoid this problem, Sila builds a microscopic cage—a nanocomposite that's silicon-dominant—that holds silicon with enough room for the expansion and contraction within. This allows lithium ions to come in and out of the anode without destroying the battery in the process.

The son of two electrical engineers turned computer programmers, Berdichevsky went to Stanford in 2001 as a mechanical-engineering major because, he says, "both of them wanted me to do computer science, so that was the one thing I wasn't going to do."

At Stanford he met Eerik Hantsoo (now vice president of equipment engineering at Sila), and the two of them built a two-person solar-powered car that raced from Chicago to Los Angeles in a ten-day competition. The journey would have taken a lot longer without the battery Berdichevsky helped design and build. In 2004 he dropped out of Stanford to become



TIMOTHY ARCHIBALD FOR FORBES

Scaling up: Cofounders Gene Berdichevsky (left), Gleb Yushin (center) and Alex Jacobs with part of the production line that will make enough of their innovative battery material to power 20 million smartwatches.

the seventh employee at Tesla.

It was while testing a variety of lithium-ion batteries for the Tesla Roadster that he noticed performance improvements in batteries were slowing down. The battery business needed a breakthrough.

Berdichevsky went back to Stanford and got a master's in engineering in 2010, focusing on materials science. Later, as entrepreneur-in-residence at Sutter Hill Ventures, he began to think about how to build not just a better battery but also a better battery company. The efficient solution might be to make a component instead of the whole thing.

At Sutter Hill, Berdichevsky investigated many technologies, but the one that caught his eye came from Gleb Yushin, a Russian émigré running a nanotechnology lab at Georgia Tech. Along with Alex Jacobs, they founded Sila Nanotechnologies in Atlanta under the university's aegis. Sila spent the next few years developing recipes for making anodes, testing 30,000 variations in areas like temperature and inputs. It moved to Alameda, California, in 2014.

Now it's time to produce. Sila is in the midst of building several reactors for a new product line that it hopes will cook up enough powder annually for 6 million amp-hours' worth of batteries. That would be enough black magic for 2.3 million phone batteries. If Sila can deliver on its 40% performance promise, those batteries will pack 14 watt-hours of energy into a space that now contains 10. But, Berdichevsky concedes, "there's just a huge amount of engineering and execution work that has to happen."

The immediate market will be for batteries that go into wearables and phones. Sila intends to use the knowledge and revenues gained there to get into the much juicier business of car batteries. "The drop-in nature means we don't have to build a billion-dollar Gigafactory," Berdichevsky says, referring to ambitious expansions by Tesla and some Chinese outfits. "We can work with the people who are going to do that anyway."

CLEARBUDS

MOST GADGETS NOWADAYS are manufactured in Shenzhen, the southern Chinese city that grew from a fishing village to hardware capital of the world in a decade. But before Shenzhen's rapid rise, Hong Kong had its own electronic manufacturing scene. Most of those companies are gone now, but a few, such as Nuu Mobile and Holga Camera, are still proudly churning out products in Hong Kong.

Louisa Cheng is hoping her company, Jabees, can follow in their footsteps. Started in 2004 by Cheng and her husband, Joe Chan, Jabees initially operated as an OEM (original equipment manufacturer), meaning it made electronic products onto which more famous brands (usually American) slapped their logo. Jabees initially made budget audio equipment (think Bluetooth headsets) for low-cost American carriers MetroPCS and Cricket Mobile.

But as Bluetooth connectivity got better and better, Cheng and her husband, Joe, decided to branch out. "We began experimenting with our own products in 2012, but we were a bit concerned if it would sell, so we sort of stuck with being an OEM for others, too," Cheng says. That half-in, half-out approach resulted in some decidedly average products. The Chengs eventually realized that if they were to be taken seriously as a brand, they needed to focus their limited resources on just one area. "And so in late 2014," she says, "we decided to stop being an OEM and completely be our own brand."

Cheng had high hopes, partly because true wireless earbuds were beginning to take off. ("True" means they don't have a tether, or wire, running between the two buds.) Germany's Bragi had just announced its ambitious Dash earbuds, and Apple's AirPods were about a year away from being introduced.

I tested Jabees' first true wireless earbuds, the BTWins, in 2016 and was impressed, but they suffered from connectivity issues, a common problem with true wireless earbuds at the time. The company is now back with a new set of true wireless buds named the Firefly, and in my brief demo of a preproduction unit during a meeting with Cheng, I found significantly improved connectivity. Best of all, the Firefly has a presale price almost half that of the previous BTWins: $59.

That's the core of Jabees' business model, Cheng says: "We know it's tough to compete with all the brands out there, so we're trying to offer a similarly featured product for less."

The Firefly is fun for the eyes as well as the ears.

While the sound quality on the demo unit didn't blow me away, it is above average, with clear mids and solid bass. Vocals came out clear on podcasts and pop songs. One thing that helps the Firefly stand out is its transparent casing, which is unusual in gadgets (although Xiaomi just announced a transparent-backed flagship phone).

Another feature that's available on the Firefly (which I didn't get to test) is rapid charging. According to Cheng, the earbuds can offer two hours of playing time on just 10 minutes of charge (a full charge takes 30 minutes). I am concerned, however, about the charging case, which has only a 500 mAh battery cell inside. Cheng says it will provide three additional charges to the earbuds.

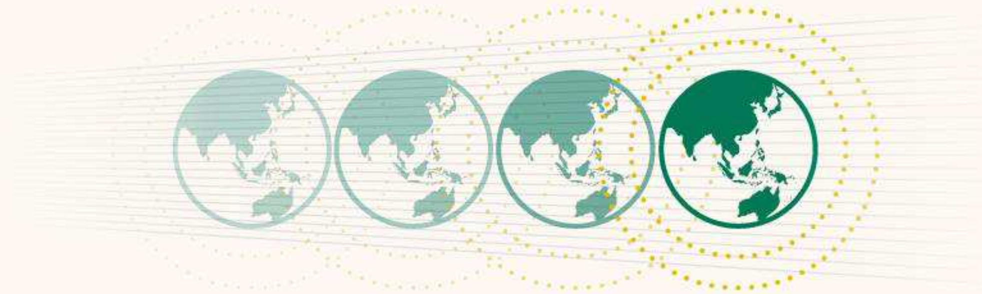
All the other features one would expect from a wireless headset, including the ability to take calls and use voice assistant, are included. The Firefly even has a transparency mode that allows outside noise to filter in, making the earbuds safer for runners or cyclists while using them on the road.

In my testing, voice calls and digital assistant operation functioned without a hitch, but transparency mode needs work: Noise came in far too strong, overpowering the music. I found the fit and finish of the earbuds to be good; they stayed securely my ear during a few test jogs. The Firefly is also equipped with the latest Bluetooth standard (5.0), which is something other budget wireless buds do not have. Cheng says the earbuds will be available at the usual markets in Hong Kong, Taiwan, South Korea and Thailand following its presale campaign, and the price could jump up to the more typical $99 range. The Firefly seems to be a great deal at $59, but once it gets up to $99, its luster fades a bit.

BEN SIN IS A HONG KONG-BASED CONTRIBUTOR TO FORBES.COM WHO WRITES ABOUT CONSUMER TECH.

THOMAS KUHLENBECK FOR FORBES (TOP); BEN SIN

Forbes CEO



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KENNY PARK

Supplier to the Stars

For decades Kenny Park has quietly made the pricey handbags that famous labels sell around the world. Today he's a billionaire.

BY GRACE CHUNG

After toiling for a month in a hot and crowded Seoul factory, it seemed like a slam dunk. But Kenny Park was crushed as his pitch to two fashion executives was going nowhere. He had just started a company to make handbags and had flown to New York for the meeting. "They wouldn't look me in the eye," he says. "They said, 'Kenny, I'm sorry, but we spoke with sales and marketing. Their opinion is that customers who buy Donna Karan aren't interested in 30% off—if it's made in Korea.' "

The executives had been intrigued by the idea of producing Donna Karan handbags at a much lower cost. "They were so impressed" by his samples, says Park. But it was 1988, luxury handbags were produced mostly in Europe, and for many consumers, the Made in Korea label meant lower quality. Undeterred, he called back two days later. "I told them I don't have an M.B.A. I don't have any expertise in business, but I know the three essences of merchandising: well-designed, well-made, well-priced. It doesn't have to be me, but you need to prepare. You need a base in Asia."

He proposed a deal. "A couple hundred pieces, just a test. If it doesn't work you're not going to be burned and my company won't go bankrupt. Fortunately it worked … it really worked." The first order for 240 Donna Karan handbags sold out. A second order of 600 sold out; 3,000 bags, gone. Within nine months Donna Karan had deployed a designer to Seoul to help create a new handbag for Park to make. In its first full year, his contract manufacturer, Simone Accessory, reaped $4 million in revenue and was already in the black, thanks also to another American customer, Esprit, which had signed on a few months earlier.

Some 30 years later, Park is still making handbags and other accessories for Donna Karan. But today he also has nearly 20 other customers, and the list reads like a fashion hall of fame: Michael Kors, Kate Spade, Coach, Marc Jacobs, Alexander Wang, Versus Versace, AllSaints. Chances are you've purchased or owned something he's made, because every year Simone churns out 30 million handbags and small leather goods. That keeps 30,000 workers busy in seven factories in Vietnam, Cambodia, Indonesia and China. Starting with the first handbag design for Esprit, the company now boasts an archive of 180,000 designs.

JAE-HYUN KIM FOR FORBES


Holding the bag, in a good way: “I never imagined getting this far.”

Simone—named after his wife's nickname—is headquartered 14 miles south of Seoul, where 400 staff work in a suburban-style office campus. The privately held company generated $120 million in net income and $940 million in revenue last year. That profit number is 16.2% higher than four years ago, while revenue is up 45.5%. In 2015 the Blackstone Group, the world's largest private equity firm, purchased a 30% stake for $300 million. The company's value has risen since then, and Park, 63, who now owns 62% with his immediate family, breaks into the ranks of billionaires this year while also debuting on the list of South Korea's 50 richest people. *Forbes Asia* estimates his net worth at $1.16 billion.

But for Park this capstone to his career probably doesn't compare to a title he earned not long after he started. In 1988—just ten years after China began opening up—no Asia-based factory was yet producing handbags for luxury brands.

"That was the first single step for Asia in manufacturing designer handbags," he says of the Donna Karan deal. "That's why Chinese manufacturers called me *Da ge*, big brother. Even when I was just 30 years old, 50-, 60-year-old men were calling me *Da ge*. Simone will always be known as a pioneer."

Park sits down at a large wooden desk amid an office dotted with towers of books, an array of sample handbags and scores of contemporary artworks. "That's my root," he says when asked about one of the several fish decorations that adorn the crowded walls. It's a nod to his late father's fishing company, which once had nine boats and a facility for repairing and building ships.

Park figured he'd join the family business after graduating from Seoul's Yonsei University with degrees in German and literature in 1978. His two older brothers—he's the fifth oldest of six siblings—already were working with his father, and he recalls accompanying him on the boats for as long as six weeks. But a love for the sea led to a desire to travel, and Park decided to chart his own path: "I said, Dad, give me three years. Without the safety of your greenhouse I would like to go out and learn on my own. I wanted to see outside Korea."

But he faced a barrier: South Korea was under military rule, and it was difficult for citizens to get passports unless they were traveling on business. So Park decided that a job at an export company might pave his way overseas. He landed at a modest handbag manufacturer called Chungsan, where he was the first employee with a college degree. "I could've gone to a chaebol company, but I purposely picked a small company," he says.

In 1980 his choice paid off. He was sent to Florence, Italy, to line up a leather supplier and was amazed by the fashion sense of the locals. "I visited a men's clothing shop, and I was shocked. The gentlemen on the streets were wearing yellow pants, green pants, fuchsia pants, red pants. There were 15 differently colored shirts. I could not imagine men wearing those colors. That excited me very much. It really motivated me."

"My canvas was small, but I could paint the drawing I liked, the painting I wanted. I could see a lady in New York wearing the handbag that I made."

That sparked his creativity. "My canvas was small, but I could draw the drawing I liked, I could paint the painting I wanted. I could see a lady in New York wearing the handbag that I made. It was a little thing, but it was a good feeling. It felt like an achievement."

Park stayed with Chungsan for seven years, eventually becoming its head of development and sales, increasing revenue by more than tenfold during his tenure, he says. But in 1987 he ventured out on his own and borrowed $30,000 from his father, defying the counsel of friends and family. They warned that South Korea was beginning to lose its manufacturing prowess as production shifted to less expensive countries. "They said, 'Kenny, that's done. Why do you want to catch the last train? China is coming.' "

But he had a safety net: One big customer was virtually guaranteed. San Francisco-based Esprit, now listed in Hong Kong, had approached Chungsan seeking a supplier, but a conflict of interest with an existing customer thwarted the deal. Esprit offered the contract to Park, motivating him to launch his own company. The timing was on his side. The workforce at factories in Italy and much of Europe was aging as fewer young people were interested in becoming craftsmen. The business was there, but the ability to handle it increasingly wasn't.

So Park focused on signing up customer number two. "I asked my American friends, 'Who's the hottest right now?' They said Donna. Donna Karan. It's American. It shows New York." He purchased her bags and worked to produce the perfect sample before landing his meeting in the summer of 1988. Four years later he established his first offshore factory, in Guangzhou, and a second one five years later in Jakarta. His first European customer signed on in 1999.

The company has flourished as Millennials' appetite for designer goods continues to expand. In 2017 the market for luxury leather goods among the top five companies totaled $49.2 billion, up nearly 30% in five years, according to data compiled by Euromonitor International. Simone supplies two of those five players: Michael Kors and Coach. Now the market has come full circle: Where once China was purely a manufacturing base, today it's the world's largest market

500 YEARS OF HANDBAGS

There's a museum for everything, and since 2012 Seoul has boasted a museum of handbags. Housed in a building shaped like a handbag, with two "straps" for a "handle" on the roof, the Simone Handbag Museum features a gallery of 350 accessories. It's the passion of Simone Accessory founder Kenny Park, whose research into the history of bags and purses inspired him—he says almost obligated him—to start the project. "Simone knows more about the design and history than any other company," he says. "It was important to maintain and preserve this heritage."

The exhibits range from a 16th-century Italian silk and metal purse to a 1970s plastic handbag that resembles a vintage telephone and a $46,000 Hermès Birkin. Rarities from Chanel, Louis Vuitton, Alexander McQueen and others fill the showcases on one floor in a bright and airy space. Another floor displays accessories worn by the likes of turn-of-the-last-century Argentine socialite María Luisa Unzué de Aldao. Temporary exhibits with themes such as Bag Is Rhythm, Bag Is Media and Bag Is Literature are mounted once or twice a year.

The museum draws fashion-design students, foreign tourists and locals, some 4,000 people a year. The admission fee is around $5. It's in a ten-story building called Bagstage on a tree-lined street of boutiques and cafes in Sinsa-dong, a trendy part of Gangnam. Bagstage also hosts handbag-making classes led by Simone's leather craftsmen—Park calls them *meisters,* the German word for masters. New employees often attend to learn about the heart of the business.

This isn't the only handbag museum in the world. It isn't even the only one in Asia—there's another in Bali—and there are others in Amsterdam and the U.S. But Park insists there is no comparison. "The handbag museum tells the history of the fashion cycle and the shifting experiences of women's lives," he says. *—G.C.*

Accessorizing on a massive scale: Kenny Park's museum in Seoul is shaped like a handbag.

for luxury goods, with mainland sales totaling $23 billion last year, according to a Bain & Co. report.

After 38 years of making bags for some of the world's most popular brands, Park is thinking of slowing down. "I've been running like a truck without brakes. Now I am trying to have more balance and reassess the priorities in my life. I am trying to have more time for myself and my family."

The seeds have already been sown. The older of his two daughters, Joowon, 31, heads a subsidiary, Simone Fashion Co., that opened in 2015 and runs four luxury-accessory stores—two for German designer Karl Lagerfeld and two called 0914 that sell mostly Simone's own brand, 0914. The 0914 flagship is across from Dosan Park in the Gangnam district of Seoul; on the next street are Hermès and Cartier shops. The brand is named after the day in 1984 when Park and his college sweetheart ran into each other in a cafe. They had broken up six years earlier and hadn't seen each other since, but the café was a place they used to frequent. "Next May we got married," he says.

Joowon, who did a stint at Morgan Stanley with its consumer retail group in Manhattan, speaks with *Forbes Asia* over the phone from Paris. "My father really respects my autonomy," she says. The brand is aimed at consumers who are typically 30 to 50 years old, and it has a simple and understated feel, with the handbags averaging around $700.

Simone Fashion also is building a business serving as the local retailer for niche labels from Europe and Japan. "Our customers are really well-versed in designer labels and are the experimental type," she says. "We are working with brands that are unique and are planning [new] store concepts."

The Simone umbrella also includes Simone Investment Co., which says it manages nearly $1 billion in assets for Park and other investors—mostly prized real estate such as the De Rotterdam, a development of offices, apartments and a hotel in the Netherlands; the Washington Harbour complex, which sits on the Potomac River in the Georgetown section of Washington, D.C.; and the Westin Hotel in Union Square, San Francisco.

For now Park has no plans to take his company public, but he hints at a vague possibility. "I never imagined getting this far. When we celebrated our 30th anniversary last year. I asked my business partners, What was the best part of working with Simone? Almost everyone said predictability and consistency." F

SFL TRAVEL / ALAMY STOCK PHOTO

BY GRACE CHUNG AND FORBES KOREA

Peace Dividend?

North and South are still just talking, but tycoons already see their fortunes soaring.

Kim Jong-Un and his top lieutenant, left, after meeting with Moon Jae-In at the border in late May.

THE PRESIDENTIAL BLUE HOUSE/HANDOUT VIA REUTERS

South Korea's new president, Moon Jae-In, championed diplomacy with the North and in April met with North Korean leader Kim Jong-Un at the border in a historic summit. Kim will take part in an even more historic summit this month, if his meeting with U.S. President Donald Trump on June 12 in Singapore takes place as planned. Yes, it's been a big year for the two Koreas.

The upbeat diplomatic news and the easing of tensions between North and South certainly helped South Korea's businesses and markets. The benchmark Kospi rose 15% in the 13 months since our last ranking of the country's richest. The technology-heavy Kosdaq climbed 40%. That helped produce a record crop of billionaires—there are now 45 in the country, up from 38 on our previous list. Only 12 fortunes fell. Four tycoons made the list for the first time, and 2 returned to the top 50 after falling off.

Biopharmaceutical entrepreneur **Seo Jung-Jin** is this year's biggest gainer; he added a staggering $9.1 billion to his fortune, or 478%, and catapulted to the No. 2 spot. Celltrion Healthcare, a marketing subsidiary of Seo's Celltrion, launched an initial public offering last July and now boasts a market capitalization of $13 billion. Meanwhile, Celltrion switched the trading in its shares from the Kosdaq to the main board of the Korea Exchange, putting it in the Kospi, and three of its biosimilar drugs, Truxima, Herzuma and Remsima, expanded their market share; the drugs treat lymphoma, breast cancer, arthritis and Crohn's disease. The stock has tripled in 13 months.

Two gaming entrepreneurs also enjoyed a robust year *(see pp. 72 and 75)*. No. 5 **Kim Jung-Ju** of Nexon was up 137%. After being cleared of charges of bribing a prosecutor who was a close friend from college, Kim last month pledged to donate $93 million of his wealth to fund startups and children's hospitals. He also vowed that his children will not inherit his stake in the company. No. 9 **Bang Jun-Hyuk** of mobile-gaming outfit Netmarble climbed 103%. It went public in May 2017 and raised $2.3 billion.

The four newcomers to the list are No. 11 **Park Yeon-Cha** of Taekwang Industrial, a major supplier to Nike *(see p. 76)*; No. 36 **Kenny Park** of handbag maker Simone *(see p. 66)*; gaming tycoon **Kim Dae-Il** at No. 42 *(see p. 75)* and No. 49 **Lee Sang-Rok**. Lee makes his debut after selling his shares in cosmetics company Carver Korea, best known for its AHC skincare line. In a deal worth $2.7 billion, Unilever now owns 95.4%.

The biggest loser was gaming magnate **Kwon Hyuk-Bin** (No. 8) of Smilegate, who shed 29.5% of his fortune as sales of the privately held company's biggest game, Crossfire, fell *(see p. 72)*. Notable dropoffs include Koo Bon-Moo of LG, who died last month, and his son, Koo Kwang-Mo *(see p. 77)*; and Cho Chang-Gul of furniture maker Hanssem, whose shares plunged 53% as a drop in home sales hurt revenue.

Net worths are based on stock prices and exchange rates as of the close of markets on May 25.

JEAN CHUNG/BLOOMBERG

JAY Y. LEE: A FREE MAN

After walking out of jail in February, the **Samsung Electronics** vice chairman turns 50 this month amid optimism about his own future and that of the Samsung empire. He's been on business trips, conferring with partner companies, buyers and investors in Europe, Canada, Japan and elsewhere in Asia after spending nearly a year in jail. He was found guilty of embezzlement and bribery in the transfer of funds at the behest of Park Geun-Hye, the ousted South Korean president who's now in prison. Lee, the country's third-richest person, was freed after his sentence was suspended; he's appealing the conviction. He is now focusing on shoring up his grip on the group while waiting to succeed his father, Lee Kun-Hee, hospitalized and unable to function four years after suffering a heart attack. Samsung Electronics last year racked up record revenue of $212 billion and a net profit of $36.6 billion.

THE LIST

1. LEE KUN-HEE
$20.6 BILLION ▲
SAMSUNG
AGE: 76

2. SEO JUNG-JIN
$11 BILLION ▲
CELLTRION AGE: 60

3. JAY Y. LEE
$7.9 BILLION ▲
SAMSUNG AGE: 49

4. SUH KYUNG-BAE
$7.6 BILLION ▲
AMOREPACIFIC
AGE: 55

5. KIM JUNG-JU
$7.1 BILLION ▲
NEXON AGE: 50

6. CHUNG MONG-KOO
$4.9 BILLION
HYUNDAI MOTOR
AGE: 80

7. CHEY TAE-WON
$4.7 BILLION ▲
SK GROUP AGE: 57

8. KWON HYUK-BIN
$4.3 BILLION ▼
SMILEGATE AGE: 44

9. BANG JUN-HYUK
$2.9 BILLION ▲
NETMARBLE AGE: 50

10. LIM SUNG-KI
$2.85 BILLION ▲
HANMI SCIENCE
AGE: 78

11. PARK YEON-CHA
$2.75 BILLION ★
TAEKWANG INDUSTRIAL
AGE: 72

12. CHUNG EUI-SUN
$2.7 BILLION ▲
GLOVIS & HYUNDAI MOTOR
AGE: 47

13. KIM BEOM-SU
$2.6 BILLION ▲
KAKAO AGE: 52

14. SHIN CHANG-JAE
$2.3 BILLION ▲
KYOBO LIFE INSURANCE
AGE: 64

15. LEE MYUNG-HEE
$2.25 BILLION ▲
SHINSEGAE AGE: 74

16. LEE BOO-JIN
$2.05 BILLION ▲
SAMSUNG C&T
AGE: 47

17. PARK HYEON-JOO
$2 BILLION ▼
MIRAE ASSET
AGE: 59

▲UP MORE THAN 10% ▼DOWN MORE THAN 10%
★NEW TO LIST ↻RETURNEE

BY ELAINE RAMIREZ

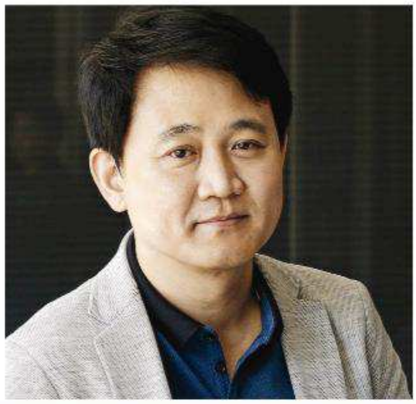
Crazy for Crypto

KIM JUNG-JU, NO. 5
Holds 83% of Korbit, South Korea's first cryptocurrency exchange. Made his first investment last September, when he paid $85 million for an initial 65% stake. His Nexon, the country's top gaming company, is investing heavily in crypto.

KORBIT

KWON HYUK-BIN, NO. 8
His gaming juggernaut Smilegate formed a partnership in February with local blockchain company The Loop to develop a crypto coin for its gamers to use.

Smilegate Entertainment



BANG JUN-HYUK, NO. 9
The mobile-gaming maven said in February that his Netmarble will explore blockchain technology, leading to speculation the company will create a cryptocurrency for its games.

netmarble

Last year was the year of cryptocurrency in South Korea. Bitcoin, ethereum and other digital currencies took the country by storm, some nine years after the world's first bitcoin was mined. When we compiled our list of South Korea's richest last spring, cryptocurrency holdings were not on our radar. But in researching our new list, it turns out that seven members *(right)* have been busy investing in crypto. In February *Forbes* ranked another Korean, Song Chi-Hyung, at No. 19 among the world's biggest fortunes based entirely on crypto, but he fell short in making the country's top 50 in overall wealth.

Song Chi-Hyung, ranked No. 19 in *Forbes*' ranking of largest crypto fortunes.

South Korea emerged as the world's third-largest market for trading bitcoin last year. The country sprouted three of the top five exchanges for ethereum, accounting for between 35% and 40% of the coin's global trading volume. An estimated 3 million people in a country of 50 million had set up cryptocurrency accounts by the end of 2017. Last October Song launched Upbit, an exchange that counts local mobile-messenger giant Kakao as a major investor, and it shot up to the top of the pack.

The feverish demand, coupled with government rules that make sending Korean won abroad cumbersome, led to a 30% to 50% premium on the purchase price of the most popular coins, a phenomenon known as the Kimchi Premium. Traders in China—which banned trading in digital coins last year—used South Korea to sell crypto for fiat, or government, money, leading to a massive cash outflow to China, according to Hong Ki-Hoon of Hongik University's College of Business. South Korea's influence on the global markets was so strong that when CoinMarketCap.com, a U.S. price-tracking site, decided to remove the country's exchanges from its algorithms because of the Kimchi Premium in January, it sent global markets reeling with a $100 billion loss.

The crypto boom took off after local investors soured on real estate and domestic stocks. Property became less attractive as prices and interest rates rose. At the same time, the stock-trading business became more difficult. In March of last year, new rules took effect that required investors in derivatives such as put options to meet much tougher certification requirements, including undergoing 30 hours of training and making 50 hours of simulated transactions. That turned off traders, notes Lee Seung-gun, CEO of Viva Republica, maker of payments application Toss.

What's more, the tech-heavy Kosdaq fell 6% in 2016. The result of all this: "A lot of active funds were not performing very well, and that led to a lack of high-risk assets that were investable in the

BANG JUN-HYUK: REED SAXON/AP PHOTO

KIM BEOM-SU, NO. 13
Owns 22% of Korean fintech startup Dunamu, which last October launched what is now South Korea's largest exchange, Upbit. Also backed by his internet giant Kakao, Upbit handles trading in 138 coins in 260 markets worldwide.

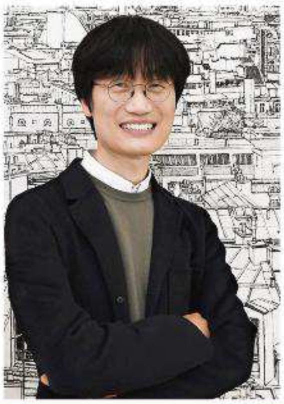
UPbit

LEE JOON-HO, NO. 35
Chairs NHN Entertainment, which backed OKCoin's launch of a crypto exchange in South Korea in January. OKCoin was China's biggest such exchange before Beijing banned crypto trading last year.

NHN ENTERTAINMENT

LEE SANG-HYUK, NO. 40
His Yello Mobile, an incubator and investor in apps, bought 52% of Dayli Financial Group for $105 million last September.
Dayli owns Coinone, which last year was one of South Korea's largest cryptocurrency exchanges. Also spent $70 million in January for 35% of Moda, a maker of wireless equipment that is shifting its business to gaming and cryptocurrency.

coinone



LEE HAE-JIN, NO. 48
His Naver, the country's leading search engine, poured $300 million into blockchain and other pioneering technologies in the first quarter of this year. Naver's mobile messenger Line is also making forays into digital currencies though two of its subsidiaries.

LEE HAE-JIN: ALAIN JOCARD/AFP/GETTY IMAGES

domestic market," says Hong. "The preference for risk in the market supplies liquidity in bitcoin." And South Korea bans most forms of gambling, so players didn't have that option. So risk-takers were ready to pour hot money into digital currencies. With high mobile-phone penetration—mobile transfers are instantaneous, with no holding time at the bank—and a highly urbanized population in which trends and news spread like wildfire, South Korea became the perfect test bed for crypto.

After the crash in January the Kimchi Premium lost its kick as regulators put guardrails on the speculators and trading calmed down. But the country's leading companies and banks continue to invest in cryptocurrencies and blockchain, the technology underlying the digital tokens.

Game makers such as Nexon, Smilegate, Netmarble and NHN Entertainment have delved into cryptocurrency, which has long drawn interest as a replacement for in-game currencies that would help users easily purchase game items and make transactions more transparent. Game makers would like to stamp out speculation on items and the distribution of unauthorized items. They believe that if digital currencies only could be used to buy game items, these practices would end. "The connection between games and cryptocurrency is huge," said Netmarble Chairman Bang Jun-Hyuk in February.

Jinyoung Park and Yohan Yun contributed to this article.

THE LIST

18. LEE JAY-HYUN
$1.95 BILLION
CJ GROUP AGE: 58

19. LEE SEO-HYUN ▲
$1.9 BILLION
SAMSUNG C&T
AGE: 44

20. LEE JOONG-KEUN
$1.8 BILLION ▼
BOOYOUNG AGE: 77

21. KIM JUN-KI
$1.65 BILLION ▲
DONGBU AGE: 73

22. LEE HO-JIN
$1.55 BILLION ▲
TAEKWANG INDUSTRIAL
AGE: 55

23. CHANG PYUNG-SOON
$1.54 BILLION
KYOWON GROUP
AGE: 67

24. KIM TAEK-JIN
$1.53 BILLION
NCSOFT AGE: 51

25. CHEY KI-WON
$1.5 BILLION ▲
SK HOLDINGS AGE: 53

26. CHUNG YONG-JIN
$1.49 BILLION ▲
E-MART & SHINSEGAE
AGE: 49

27. HUR YOUNG-IN
$1.47 BILLION ▲
PARIS-CROISSANT FOOD
AGE: 69

28. CHO JUNG-HO
$1.42 BILLION ▲
MERITZ FINANCIAL GROUP
AGE: 59

29. CHUNG MONG-JOON
$1.4 BILLION
HYUNDAI HEAVY INDUSTRIES
AGE: 66

30. LEE HWA-KYUNG
$1.3 BILLION ▲
ORION AGE: 62

31. KIM NAM-JUNG
$1.26 BILLION ▼
DONGWON AGE: 45

32. SHIN DONG-GUK
$1.2 BILLION ↻
HANMI SCIENCE
AGE: 68

33. SHIN DONG-BIN
$1.19 BILLION
LOTTE AGE: 63

34. KOO BON-SIK
$1.18 BILLION ▲
HEESUNG & LG
AGE: 59

▲UP MORE THAN 10% ▼DOWN MORE THAN 10%
★NEW TO LIST ↻RETURNEE

LEE HWA-KYUNG: MOVING TO THE SILVER SCREEN

She controls one of the country's oldest and most popular confectionery groups, **Orion**, whose revenue these days comes mostly from China. One of only five women on the list, Lee, No. 30, is the second daughter of Lee Yang-Koo, founder of Dongyang, the precursor to the group. She's now running its entertainment subsidiary Showbox, which distributed the 2017 box office hit *A Taxi Driver*, which raked in $85 million, making it the country's second-highest-grossing film that year. Our estimate of her fortune includes the wealth of her husband, Dam Chul-Gol, Orion Holdings' chairman, who holds a 28.7% stake; Lee holds 32.6%.

GAMING

Playing for Profit

Kim Dae-Il is a newcomer to the list, ranked at No. 42.

Gaming has long been the national obsession in South Korea, and now there are six game developers among the country's 50 richest. All are billionaires, and one cracks the list for the first time: 38-year-old Kim Dae-Il, who joins at No. 42.

Kim look his company, Pearl Abyss, public last September, riding the huge success of its only title, *Black Desert*. It's an action-packed role-playing game that's reaped more than $400 million in revenue since its 2015 debut, 80% of that from overseas. He says he had dreamed of becoming a gaming developer since middle school. He dropped out of college and later started the company with three friends. He owns 37%, while his cofounders each own between 3.7% and 5.3%. Christine Sun, who represents the company, attributes the game's popularity to "the sophisticated character-customization tool that no other game can compete with."

The other gamer billionaires built their fortunes in different sectors, each a pioneer with their own stories. There's No. 5 Kim Jung-Ju, or JJ, of Nexon in free online games; No. 9 Bang Jun-Hyuk of Netmarble in mobile games; and No. 24 Kim Taek-Jin, or TJ, of NCSoft in the online market. There's also No. 8 Kwon Hyuk-Bin of Smilegate and No. 35 Lee Joon-Ho of NHN Entertainment.

How did South Korea reach the point where just about everyone seems to be mesmerized by one game or another? Some 88.7% of people said they had played a game on their phone recently, according to a survey last year by the Korea Creative Content Agency, an offshoot of the government's culture ministry. The "gaming culture" began 20 years ago with the 1997–1998 economic crisis, according to the agency's Lee Tae-Hee, who worked for gaming companies for ten years. With the economy in the doldrums, young people, many of them jobless, turned to the early, and primitive, computer games. "Gaming was very cheap and new entertainment," he says.

At the same time, the government responded to the crisis with a massive upgrade of the internet infrastructure, leading to an internet boom and a flourishing gaming industry. "Competition among enterprises spurred market growth," says Seo Hyeon-Il, manager at the Korea Game Industry Association.

Today gaming is a key part of the Korean Wave, as with K-Pop and K-Beauty. Produced by some 800 developers and publishers, computer and online games amassed more than $11 billion in revenue last year in South Korea. And 48% of the players are women, according to the survey. "A large number of female game users are drawn to a game that stresses the importance of cooperation and interactions among players, more than double the preference for first-person-shooter games," states the report on the survey.

The lure of foreign sales is jacking up the competition among Korean game producers and against foreign rivals. In 2016 export sales totaled $3.3 billion. The country commands 15.2% of the global market for online gaming, between first-place China and third-place U.S.

—*Donald Kirk*

35. LEE JOON-HO
$1.17 BILLION ▲
NAVER & NHN ENTERTAINMENT
AGE: 53

36. KENNY PARK
$1.16 BILLION ★
SIMONE ACCESSORY
AGE: 63

37. KOO BON-NEUNG
$1.15 BILLION
HEESUNG
AGE: 69

38. SHIN DONG-JOO
$1.12 BILLION
LOTTE
AGE: 64

39. HONG SEOK-JOH
$1.1 BILLION ▼
BGF RETAIL
AGE: 65

40. LEE SANG-HYUK
$1.08 BILLION
YELLO MOBILE
AGE: 47

41. CHO HYUN-JOON
$1.07 BILLION ▲
HYOSUNG
AGE: 50

42. KIM DAE-IL
$1.05 BILLION ★
PEARL ABYSS
AGE: 38

43. MICHAEL KIM
$1.04 BILLION
MBK PARTNERS
AGE: 54

44. KIM NAM-GOO
$1.02 BILLION ↻
KOREA INVESTMENT HOLDINGS
AGE: 54

45. KOO BON-JOON
$1 BILLION ▲
LG GROUP
AGE: 66

46. CHO YANG-RAI
$960 MILLION ▼
HANKOOK TIRE
AGE: 80

47. BOM KIM
$950 MILLION
COUPANG AGE: 39

48. LEE HAE-JIN
$940 MILLION ▼
NAVER AGE: 50

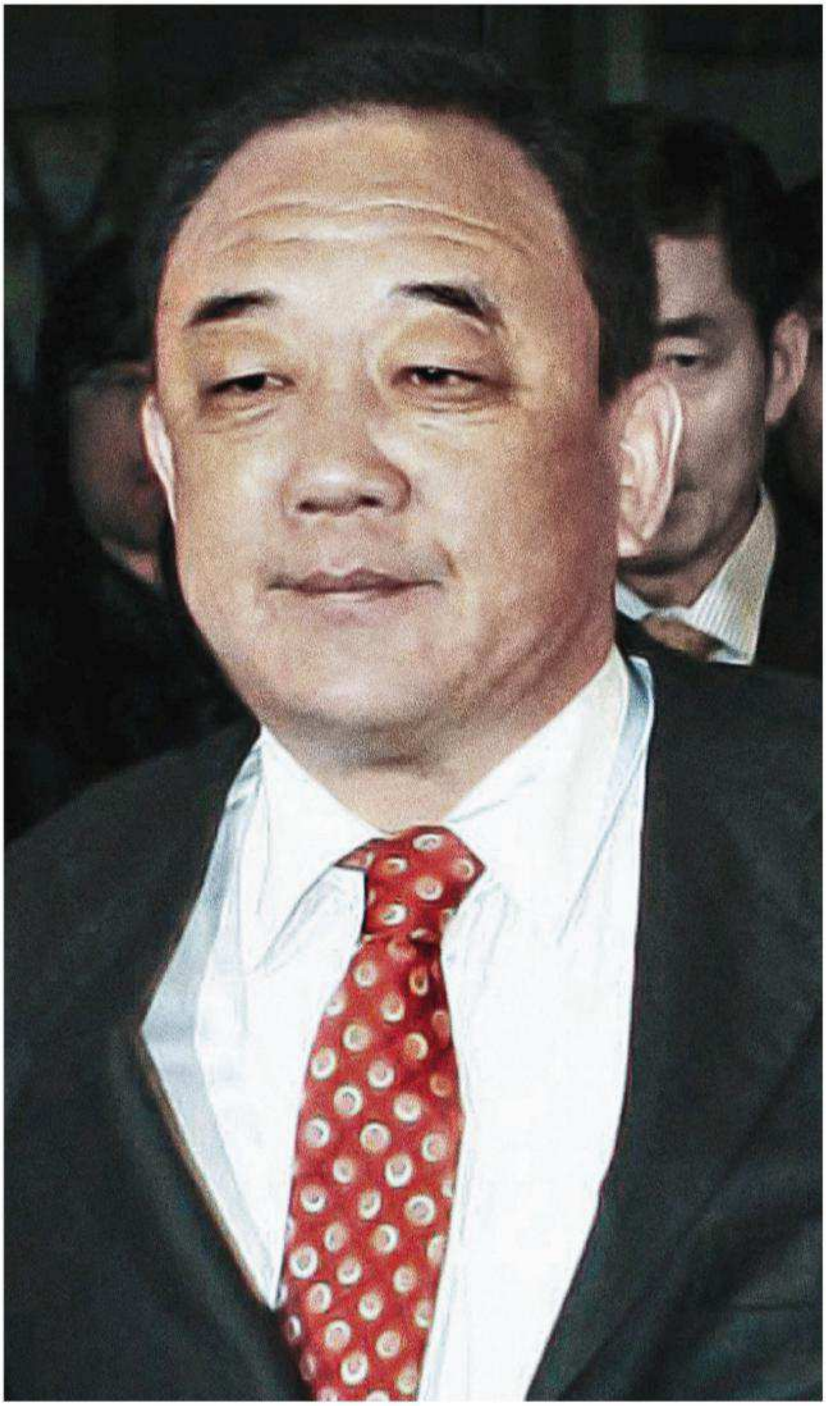
49. LEE SANG-ROK
$930 MILLION ★
CARVER KOREA
AGE: 43

50. LEE SANG-IL
$880 MILLION
ILJIN AGE: 79

▲UP MORE THAN 10% ▼DOWN MORE THAN 10%
★NEW TO LIST ↻RETURNEE

PARK YEON-CHA: SNEAKER KING

One of Nike's biggest suppliers catapults into the billionaire ranks, debuting on the list at No. 11 thanks to his **Taekwang Industrial**, which churns out 60 million units for the brand each year. With 70,000 employees and factories in Vietnam, Indonesia and China, last year Taekwang earned more than $150 million in net profit and collected $1.5 billion in revenue. Park, who founded Taekwang in 1971 and owns 98% of the privately held company with his four children, made headlines in 2011 for a corruption scandal that involved former president Roh Moo-Hyun. He was sentenced to 30 months for bribery and tax evasion.



SHIN DONG-BIN: LOCKED UP

The chairman of the **Lotte Group** went to prison in February but is appealing his 30-month sentence for bribery. It was part of the scandal that led to last year's impeachment and conviction of South Korea's former president, Park Geun-Hye, who's also in prison. Shin, who's at No. 33, was convicted of transferring $6.5 million to a confidante of the president to win approval for duty-free shops. He pleaded not guilty, saying the fund was for sports development. He remains vice chairman of Lotte Holdings, where he greatly expanded its hotel, shopping and food enterprises and then defeated his older brother, No. 38 Shin Dong-Joo, in a contest to succeed their father, founder Shin Kyuk-Ho. Lotte Shopping is now selling Lotte Mart and Lotte Super stores in China after China shut many of them down after Lotte provided the land—a golf course—for a missile-defense battery southeast of Seoul.

YONHAP NEWS/NEWSCOM (RIGHT)

KOO BON-MOO

A Changing of the Guard at LG

Koo Kwang-Mo (right) is expected to take over after the death of Koo Bon-Moo.

SEONGJOON CHO/BLOOMBERG (TOP)

The tragic death of his son in 2004 left LG Group Chairman Koo Bon-Moo with two daughters but without a male heir. So Koo legally adopted Koo Kwang-Mo, then 26, a younger brother's only son, and groomed him to take over someday. Now, with Bon-Moo's death from brain cancer last month, Kwang-Mo is expected to become the new LG chairman when the board meets June 29. He was elevated to the board of the holding company, LG Corp., after his father died.

Chaebol transitions often lead to fights, but a power struggle seems unlikely at LG. The father, who was 73, owned 11.28% of LG Corp., and his son holds 6.24%, easily enough to guarantee Kwang-Mo's succession. There's one complication, however. Another of Bon-Moo's younger brothers, Bon-Joon, 66, is vice chairman of both LG Corp. and LG Electronics and was put in charge during his brother's year-long illness. A spokesman says he will continue to "oversee major operations and lead and direct major management meetings." He owns 7.72% of LG Corp.

Kwang-Mo's experience is rather limited, so his focus at first will be shareholder relations—keeping stockholders, especially the Koo family, happy. Only 40, he's expected to grow into the chairman's job under his uncle's tutelage. A graduate of the Rochester Institute of Technology in the U.S., he has worked for LG Electronics for 12 years and is vice president of its information-display unit. LG is South Korea's fourth-largest chaebol and generated $160 billion in revenue last year, mostly in chemicals, telecommunications, household products and electronics. "As a younger executive with international experience and a solid technical background, Kwang-Mo may be able to provide the group with the direction and leadership that will be important for the next two decades," says Hank Morris, a longtime financial-sector analyst in Seoul. LG stands to profit "as batteries make electric vehicles and appliances ever more important."

Koo Bon-Moo was the grandson of Koo In-Hwoi, who founded Lucky as a chemical company in 1947 and started Goldstar in electronics 11 years later. His son, Koo Ja-Kyung, who is now 93, turned the company over to Bon-Moo in 1995. The first thing Bon-Moo did was change the Lucky Goldstar name to LG. Annual revenue was just $30 billion back then. The group is riding high these days on sales of TV sets, smartphones and washing machines. Although the founder and his heirs avoided the temptation to compete in motor vehicles, LG does have a stake in the industry, making batteries and LED lights. It recently made its costliest acquisition, purchasing ZKW, an Austrian manufacturer of automotive lights, for $1.5 billion.

Bon-Moo was the oldest of the four Koo brothers, and they all made the rich list each year. Last year he ranked 13th; his fortune totaled $2.2 billion as of February. The company hasn't said how that wealth will be distributed, but Kwang-Mo and his sisters are expected to inherit all or most of the LG shares. He ranked 48th on last year's list with $720 million but did not make the cutoff this year. The next Koo brother, Bon-Neung, is the one who gave up Kwang-Mo for adoption. He chairs Heesung Group, which LG spun off, and is No. 37 this year, with $1.15 billion. Bon-Joon, the vice chair, is 45th, at $1 billion, and Bon-Sik, the youngest, is No. 34 at $1.18 billion. *—D.K.*

FOR METHODOLOGY AND ALL BIOS, GO TO FORBES.COM/KOREA

The great escapement: McQueen during the making of *Papillon*, wearing his Rolex Submariner, which he later inscribed (opposite) as a gift to his favorite stuntman.

RON GALELLA/WIREIMAGE/GETTY IMAGES

Long Live McQueen

For years, Steve McQueen's Rolex Submariner was presumed lost. Then it was destroyed in a fire—until it wasn't. Now the King of Cool's timepiece has reemerged and will go up for auction in October. The secret history of a grail watch.

BY MICHAEL SOLOMON

For more than half a century, Steve McQueen and Paul Newman have been cosmic twins of masculinity. Box-office rivals throughout the sixties and seventies—they would have starred in *Butch Cassidy and the Sundance Kid* but couldn't agree on who would receive top billing—the actors were also revered for their offscreen passions: racing cars, riding motorcycles and collecting watches. Years after their deaths—McQueen died at 50 in 1980, while Newman passed away in 2008 at 83—the two men still regularly compete over the ever-escalating prices of their memorabilia.

Last October, Paul Newman's 1968 Rolex Daytona—with a white-and-red "exotic" dial that came to be known as the Paul Newman Daytona simply because he wore it—sold at Phillips auction house in New York for an astonishing $17.8 million. The price was not only a record for a Rolex at auction but also the highest amount ever paid for a wristwatch at auction.

More than a year before the gavel came down on Paul Newman's Paul Newman, Michael Eisenberg, a Beverly Hills real estate broker and developer who is also a prominent memorabilia collector, was privately negotiating with the consignor of the Daytona, a deal that would have kept it from ever going on the block. "I really wanted to buy it," the 53-year-old Eisenberg recalls. "I had the money, but obviously it wasn't anywhere near the money the watch sold for."

He also soon began a quest for another so-called grail watch—one owned by McQueen. "The idea was to join the two watches—then I'd have Butch and Sundance," says Eisenberg, who wears a Rolex 1675 GMT Master with a root beer dial and bezel. "And I would never sell them. I'd tour them and put them on display."

The watch Eisenberg sought, however, wasn't the one for which McQueen is best known—a Heuer Monaco, which was actually just a prop for his 1971 racing movie, *Le Mans*. But the McQueen mystique has made that timepiece a classic and collectible for decades. In 2012 a Monaco he wore in the film sold at auction for nearly $800,000. Offscreen, McQueen was frequently photographed wearing his actual watch: a ref. 5513 Rolex Submariner, circa 1964. Now Phillips will bring that watch to auction on October 25 in New York.

Like the Newman watch, McQueen's Submariner has a fascinating history, one that combines elements from two of his most famous movies, *The Great Escape* and *The Towering Inferno,* and even involves a stuntman. He bought the watch in the mid-1960s, when it would have cost around $250, and also owned another model, a ref. 5512 Submariner from 1967 that brought $234,000 at an Antiquorum auction in 2009.

Some time in the late 1970s, McQueen gave the older Submariner to his favorite stunt double, Loren Janes. The pair had been working together since 1958, when McQueen was making the TV series *Wanted: Dead or Alive*. Over the next two decades, in 19 movies—including *Bullitt*, *The Getaway* and *The Thomas Crown Affair*—Janes performed some of McQueen's most memorable stunts. That iconic ten-minute car chase in *Bullitt*, where McQueen careens through San Francisco in a 1968 Mustang? It was actually Janes behind the wheel.

To show his gratitude for Janes' work and friendship, McQueen also had the case back engraved—LOREN, THE BEST

DAMN STUNTMAN IN THE WORLD. *STEVE*—making it the only known McQueen watch to bear the actor's name.

For decades McQueen's watch was presumed missing, until July 2016, when the historic Sand Fire raged through Los Angeles for nearly two weeks. Among the 18 Canyon Country homes lost in the massive wildfire was the house in which Janes, who was suffering from Alzheimer's disease, had lived with his wife since the 1990s. (He died in June 2017.) Eisenberg remembers reading a story at the time about the couple losing all their possessions, including some of Janes' most treasured mementos: mugs belonging to John Wayne, a knife used by Sylvester Stallone in *Rambo: First Blood Part II* and McQueen's Submariner.

"I *begged* them to go back to the house and sift through ashes," Eisenberg says, recalling the conversations he had with Janes' wife and their daughter, Erika. "A few weeks later, they called me back to say they had found it."

Now, even a Rolex that has survived that kind of holocaust cannot be expected to keep on ticking. After all, a Submariner was designed for deep-sea conditions—not fire. So Eisenberg recommended that the family take the watch to Gearys, a luxury boutique in Beverly Hills, to have it professionally restored. Gearys immediately sent the watch to Rolex headquarters in New York, which miraculously brought the watch back to life, preserving the precious case back. To this day, soot is wedged in the bracelet clasp.

Upon returning the watch to Erika Janes, Rolex sent her a letter highlighting its extraordinary provenance. "The story you graciously shared with our official Rolex Jeweler," a customer service manager wrote, "is an amazing testament to the durability of a Rolex timepiece. Your father, through his devotion to his craft, his fellow stuntmen, those for whom he daringly doubled—including his friend and gifter of his watch—Mr. Steve McQueen, and of course to his family, demonstrates traits that embody true Excellence. We are proud that he chooses to wear a Rolex Submariner."

With the watch restored, Eisenberg made the Janes family a generous offer to buy it—though he declines to name the amount. After fielding a few other estimates, they accepted Eisenberg's bid; the family and Boys Republic, a charity that McQueen cared deeply about, will also receive a portion of the auction sale.

Much as Eisenberg loves collecting celebrity memorabilia—he's owned everything from James Bond tuxedos to a Dorothy dress from *The Wizard of Oz*—he occasionally sells his most valuable items, usually to buy better ones. (In 2014 he reportedly sold the "Captain America" chopper from *Easy Rider* at auction for $1.35 million.) But no star has the allure of Steve McQueen when it comes to collectibility—in large part because he was seen as a man's man who lived his movie fantasies in real life and also because of the scarcity of the cars, bikes and clothes he actually owned. "Elvis, Bogart, James Dean," Eisenberg says, "nobody's items have sold for the same prices. It could be 10x or 100x if it were owned by McQueen."

The King of Cool certainly reigns among car collectors, who regularly pay a premium for a vehicle once owned by McQueen. In 2011 his 1970 Porsche 911S, which had a cameo in *Le Mans,* sold at auction for $1.38 million. (The same car without the McQueen connection would sell for around $75,000.) And last year the 1970 Porsche 917K that took home the checkered flag in that film sold for more than $14 million at auction—a record for a Porsche.

But it's still Newman who has the upper hand in the watch world, thanks to the Phillips auction last October. In less than five years, under the aegis of Aurel Bacs, the star auctioneer behind Phillips' partner Bacs & Russo, and Paul Boutros, Phillips' head of Americas and an international strategy advisor for the watch division, the auction house has become the market leader in terms of annual watch sales—$112 million in 2017, up more than $5 million from 2016. After the record Paul Newman Daytona sale last year, Phillips shattered a few more records in May when it auctioned 32 vintage Daytonas in Geneva. All 32 lots found a buyer, and five timepieces sold for more than $1 million each. That same weekend, Phillips auctioned an Omega watch owned by Elvis for $1.8 million (a record for that brand), bringing the two-day total to more than $45 million.

With such a turbo-fueled watch market, Eisenberg knew that he would be able to sell the McQueen Submariner almost as quickly as he bought it. "When it finally dawned on me that I was never going to own the Newman watch," he says of his strategy to bring the Rolex to auction, "I reached out to Phillips and said, 'I've got your next hero watch.'"

Hammer time: Can McQueen's Submariner eclipse the $17.8 million auction price of Paul Newman's Rolex Daytona?

Boutros agreed. "He saw what we did with the Newman watch, the effort we put behind it," he says, "because he felt like Phillips could do something special with it." Rather than rush it to auction following the Newman frenzy, Phillips decided to wait a year. "Similar to the Newman watch, we wanted to give this timepiece the spotlight it deserves."

The McQueen Submariner will have a low presale estimate—between $300,000 and $600,000—but so did Newman's Rolex, which was modestly expected to exceed $1 million. "My real estate background tells me that there's more air in the bubble," Eisenberg says of the astronomical auctions. "There's never been so much money out there. These sale prices are like telephone numbers." But, he continues, "I worked at Drexel back in the day and learned you can't call a top and you can't call a bottom."

As for the final sale price the watch will reach this October, Eisenberg doesn't believe McQueen will surpass Newman, but he's optimistic: "I think this firm has the ability to do that. I trust the universe." Besides, he notes, "it only takes two bidders" and then the "mine's bigger" mentality takes over. "And I'm not talking about body parts—I'm talking about checkbooks."

The Oligarchs Score Big

BY ANGEL AU-YEUNG, BASED ON REPORTING BY SERGEY TITOV FOR FORBES RUSSIA

GENNADY TIMCHENKO
NET WORTH: $16 BIL
An engineering-and-construction firm owned by Timchenko, a close ally of Vladimir Putin, received $530 million for two 45,000-seat stadiums.

VIKTOR VEKSELBERG
$13.5 BIL
Vekselberg, who reportedly had ties to a firm that paid Donald Trump lawyer Michael Cohen, spent $560 million to renovate airports in four cities.

AT LEAST 15 Russian billionaires found a way to get in on the World Cup, which begins in their homeland on June 14. They either received contracts—just 6 of them collected nearly $7 billion to construct or repair facilities and transportation infrastructure—or invested money to do things like run ticketing systems and provide internet availability in stadiums. As the dollar figures from these 4 billionaires alone indicate, in Russia, the same old cronies are getting richer yet again.

ARKADY ROTENBERG
$2.7 BIL
No one landed a bigger payday: The Putin pal got over $4 billion for a 425-mile highway—that won't be finished in time—and just over $1 billion to renovate three airports.

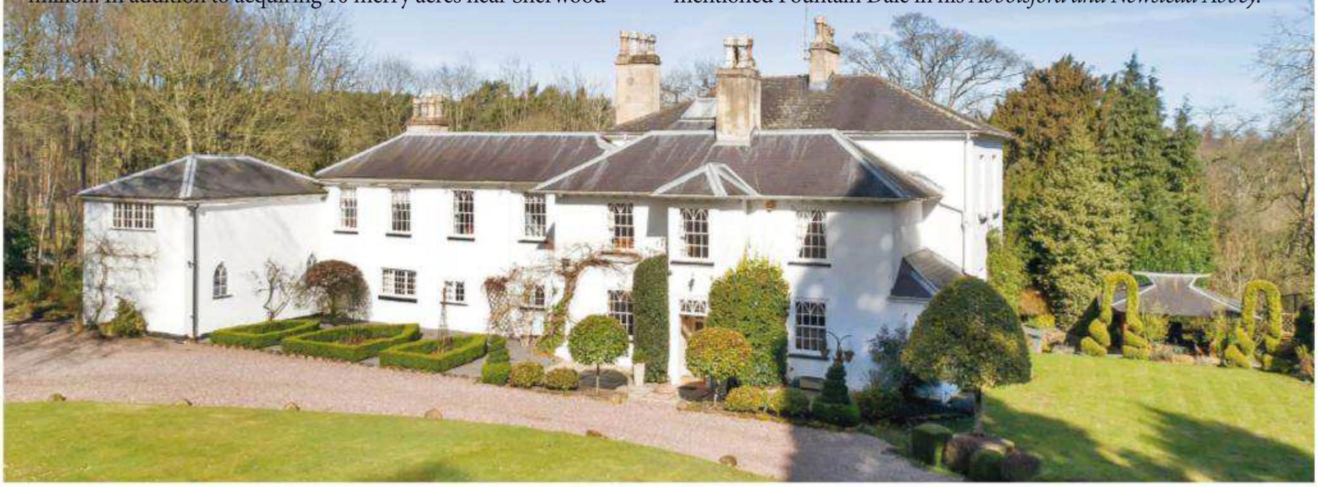
ARAS AGALAROV
$1.7 BIL
Agalarov, who once planned to build a Trump Tower in Russia, received $580 million to erect two stadiums.

SURREAL ESTATE

Robin Hood's Hideout

BY SAMANTHA SHARF

PLENTY OF COUNTRY HOMES claim to have a storybook setting, but one 18th-century English manor comes with a library full of literary legacy. Legend has it Robin Hood first met Friar Tuck behind Fountain Dale House, this 12-bedroom, 8-bathroom property in Nottinghamshire, England, now listed for about $2.4 million. In addition to acquiring 10 merry acres near Sherwood Forest, the new owner will get a 6,000-square-foot main house and 2,300-square-foot guesthouse, both listed on the U.K.'s registry of historic buildings. Robin Hood isn't the only literary hero connected to the residence: Sir Walter Scott wrote parts of *Ivanhoe* here, and Washington Irving, author of *The Legend of Sleepy Hollow*, mentioned Fountain Dale in his *Abbotsford and Newstead Abbey*.



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THOUGHTS ON

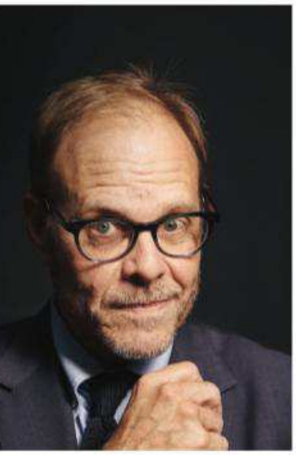
Delegation

“DELEGATION IS NOT A BINARY THING. THERE ARE SHADES OF GRAY BETWEEN DICTATORSHIP AND ANARCHY.”

—JURGEN APPELO

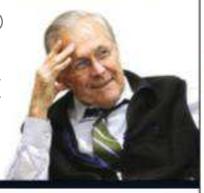
“Unless you can point your finger at the man who is responsible when something goes wrong, then you have never had anyone really responsible.”

—HYMAN G. RICKOVER



“I’m going from doing all the work to having to delegate the work—which is almost harder for me than doing the work myself.”

—ALTON BROWN



“FIND PROBLEM AREAS, ADD STRUCTURE AND DELEGATE. THE PRESSURE IS TO DO THE REVERSE. RESIST IT.”

—DONALD RUMSFELD

“In most cases, being a good boss means hiring talented people and then getting out of their way.”

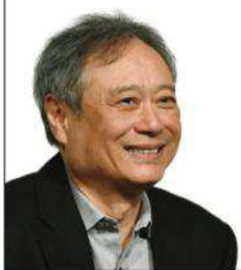
—TINA FEY

“If you’ve imprinted your values on the people around you, then you can dare to trust them to make the right moves.”

—HOWARD SCHULTZ

“Believe in harmony. Reduce conflicts. Take orders until one day you give orders.”

—ANG LEE



“Don’t tell people how to do things. Tell them what to do and let them surprise you with their results.”

—GEORGE S. PATTON

“FOLLOWING ORDERS IS RIGHT. GIVING ORDERS FOR THE WRONG REASON ISN’T.”

—ALEKSANDR VOINOV

“Anyone can do any amount of work, provided it isn’t the work he is supposed to be doing at the moment.”

—ROBERT BENCHLEY

“WHEN IN DOUBT, MUMBLE. WHEN IN TROUBLE, DELEGATE. WHEN IN CHARGE, PONDER.”

—JAMES H. BOREN

“If you have great talents, industry will improve them. If you have but moderate abilities, industry will supply their deficiency.”

—JOSHUA REYNOLDS

FINAL THOUGHT

“The smartest bosses pick execs who are smarter.”

—MALCOLM FORBES

“The expert horse rider lets the horse know immediately who is in control but then guides the horse with loose reins and seldom uses the spurs.”

—SANDRA DAY O’CONNOR

“YOU SHALL BE IN CHARGE OF MY PALACE, AND ALL MY PEOPLE ARE TO SUBMIT TO YOUR ORDERS. ONLY WITH RESPECT TO THE THRONE WILL I BE GREATER THAN YOU.”

—GENESIS 41:40

SOURCES: THE ALGONQUIN WITS, BY ROBERT E. DRENNAN; DISCOURSES ON ART, BY JOSHUA REYNOLDS; THE TIMES BOOK OF QUOTATIONS; #WORKOUT, BY JURGEN APPELO; DARK EDGE OF HONOR, BY ALEKSANDR VOINOV; BOSSYPANTS, BY TINA FEY; POUR YOUR HEART INTO IT, BY HOWARD SCHULTZ.

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