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# Forbes

SPECIAL ISSUE

FORBES 100 YEARS EST. 1917

**2018 INVESTMENT GUIDE**

**DO GOOD, GET RICH**

FOSSIL-FREE OIL

GREED IS GREEN

BEST VALUE INVESTMENT: WOMEN

BEWARE IMPACT IMPOSTORS

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**BRIAN KRZANICH**

HE'S #1
(ON THE JUST 100 LIST)

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## COVER STORY



**Spencer Rascoff, CEO of Zillow Group. His company is No. 51 on the Just 100.**
TIM PANNELL FOR FORBES

COVER PHOTOGRAPH BY ETHAN PINES FOR FORBES
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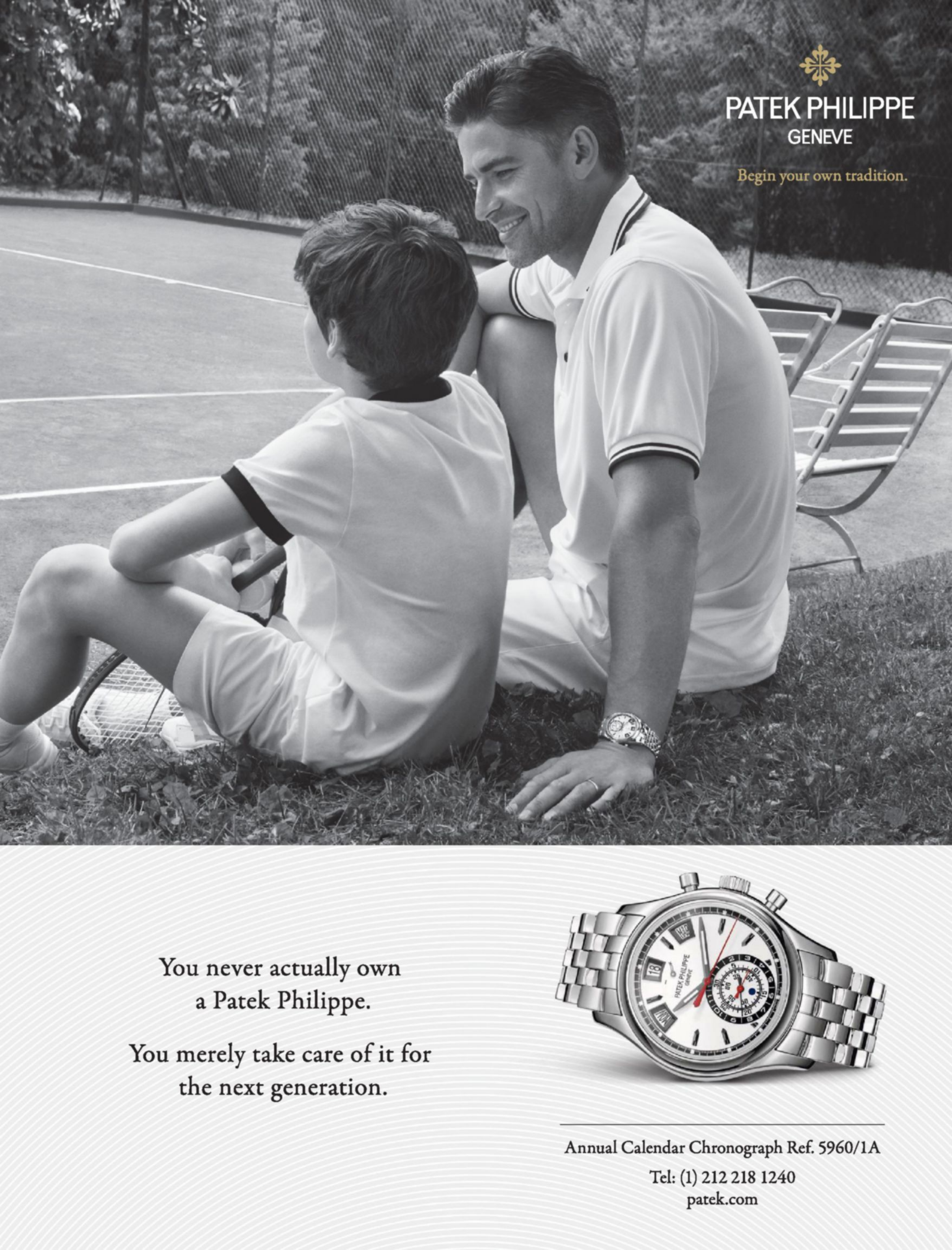
WOOL SUIT ($11,500), COTTON SHIRT ($850), SILK TIE ($260).
AND CROCODILE BELT ($2,800) BY STEFANO RICCI.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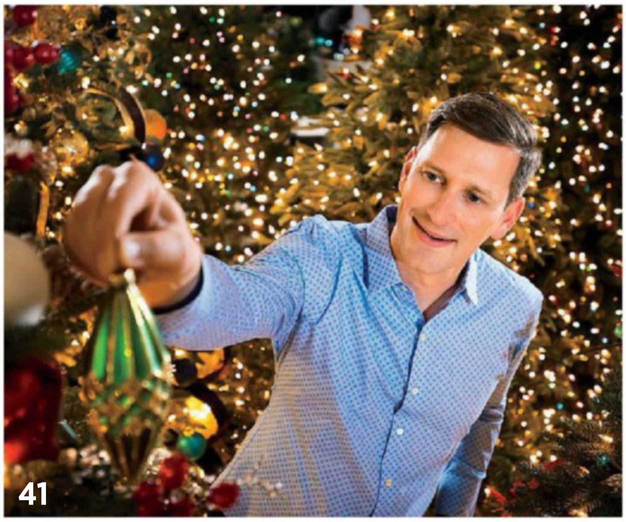
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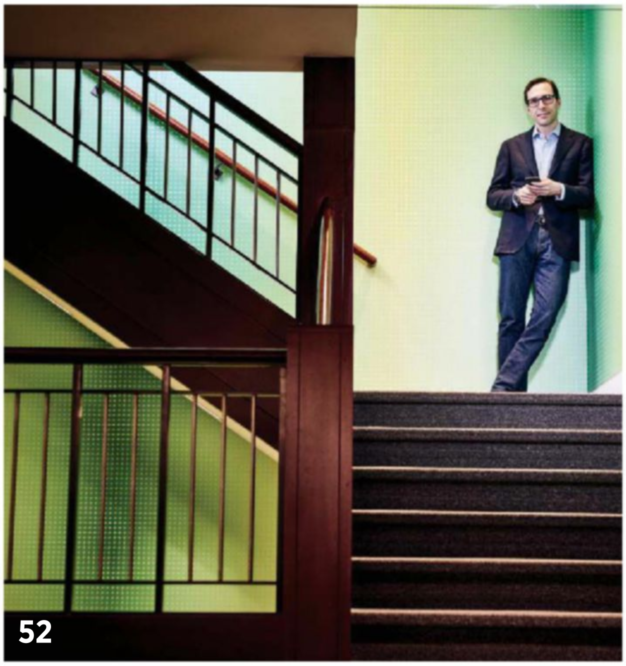
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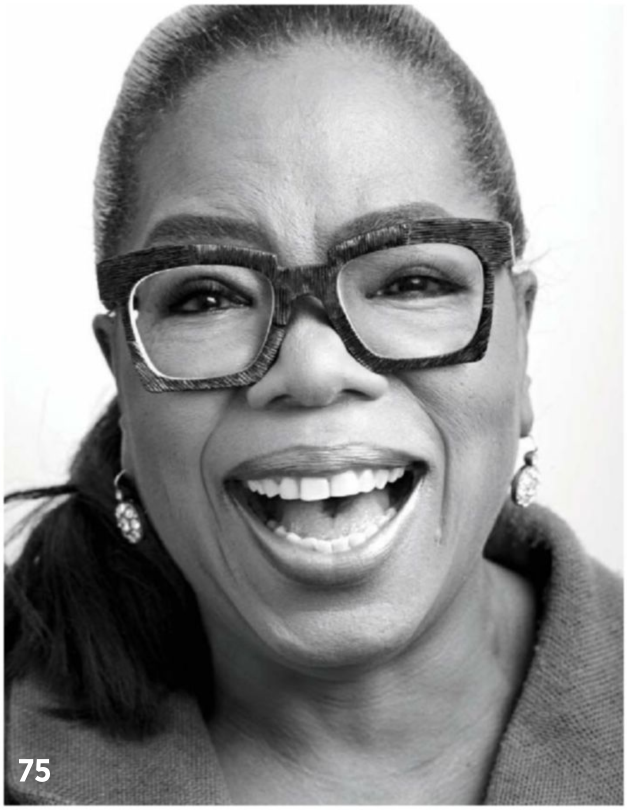


MARTIN SCHOELLER


JAMEL TOPPIN FOR FORBES; CREATIVE STYLE DIRECTOR: JOSEPH DEACETIS; STYLE EDITOR: JOHN ANTHONY BONILLA; HAIR/MAKEUP: SUZANNA HALLILI


## FEATURES



## 2018 INVESTMENT GUIDE: DO GOOD, GET RICH



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INSIDE SCOOP

# Capitalism, Built to Last

**IN THE TENS OF THOUSANDS OF YEARS** of humankind, we are blessed to be enjoying the greatest way ever to spawn wealth and happiness: entrepreneurial capitalism. Given our feckless government, perhaps it's the only way right now. But it's not a constant—to keep this system healthy, we must continually nurture it. At the moment, too many Americans doubt whether capitalism delivers what they need, in part because too many companies have stopped listening to America.

That's where the Just 100 comes in. Last year, we debuted the first-ever ranking of companies based on whether they achieve what Americans expect from them. This year, we've taken the next step: a unified ranking of 877 of the 1,000 largest publicly traded companies, the best of which, regardless of industry, earn the Just 100 label. The multimillion-dollar research and methodology driving this are unprecedented. We surveyed more than 72,000 people to establish a truly representative look at what Americans want from a just company and then used seven weighted drivers designed to precisely reflect those wants, built with data so granular that it measures store-by-store metrics relative to the zip code.


Paul Tudor Jones

MATTHEW FURMAN FOR FORBES

*Forbes* publishes the Just 100 in partnership with Just Capital, a nonprofit company started by hedge fund billionaire and Robin Hood Foundation founder Paul Tudor Jones, one of the keenest capitalists. For him, the Just 100 was born of patriotic duty. "There is no bigger threat to our democracy than wealth disparity. It is a story normally reserved for monarchies, dictatorships and plutocracies," Jones tells me. "And yet we got in this pickle because over the past 40 years the corporate focus on profits took on manic proportions relative to other stakeholders such as employees, communities and the planet.

"Giving the public a voice and providing transparency, as Just Capital is, can start to address this imbalance by using a market mechanism to drive positive change in the most efficient way possible. Let's hope we aren't too late."

—RANDALL LANE, EDITOR

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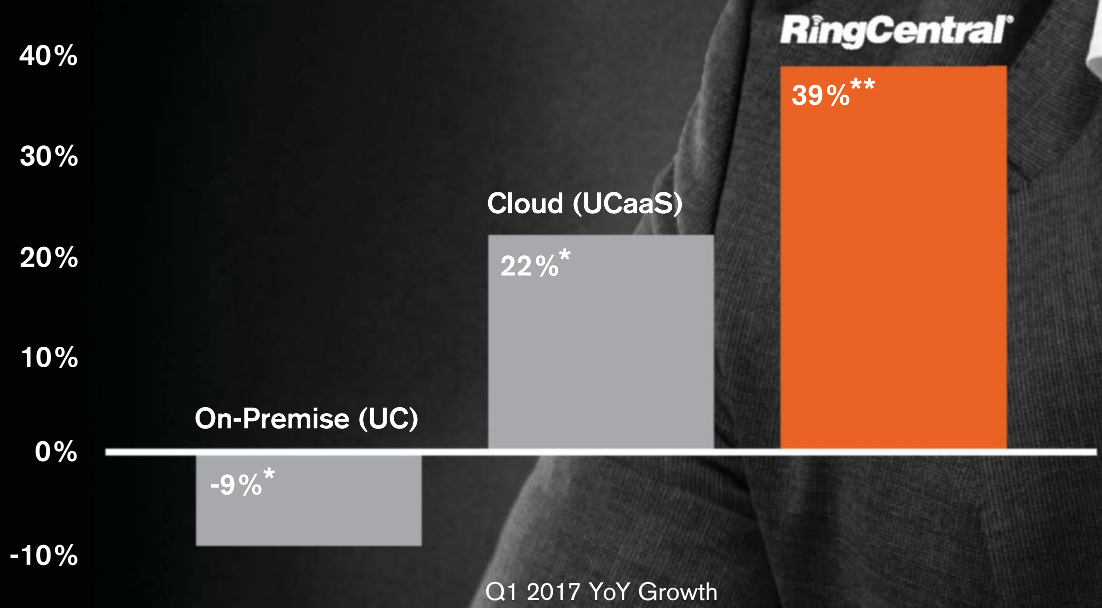


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Paul Chapman, Chief Information Officer

box

*Source: Synergy Research UCaaS Revenue Growth Tracker, Q1 2017
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*"With all thy getting, get understanding"*

# THE GOP FORGOT TAX CUTTING 101

**BY STEVE FORBES, EDITOR-IN-CHIEF**

**TWO REMARKABLE** things stand out—for their absence—from the drawn-out, convoluted Republican tax-bill exercise. One is somewhat arcane but absolutely critical to effective tax policy (Ronald Reagan understood it); the other is astonishing, given all the GOP verbiage on the importance of investing and the alleged need for "revenue offsets" for most of their cuts.

• **Marginal tax rates.** This is the tax rate you pay on your *next* or *additional* dollar of income. Ronald Reagan, John Kennedy, Jack Kemp and other wise tax cutters of the past grasped the significant fact that the marginal tax rate is what matters most to individuals and businesses in their decision making on whether to work to earn more or where to invest. Take an extreme example that makes the point: Say someone makes $50,000 and is taxed at 10%; if she works harder she can boost that income to $60,000. However, if the additional $10,000 will be taxed at 98% instead of 10%, the individual will either forgo the extra income or consult a tax lawyer or accountant to find some way to shelter it. The same is true of a business. Investing is risky enough, but if any extra profit is going to be taxed at an exorbitant level, the company will probably not make the investment to expand the enterprise and will instead put the money into tax-free municipals.

Tax rebates have little impact on expanding an economy, because they don't change marginal tax rates. They are one-shot deals. Nice to have, but they won't really affect what financial decisions are made, the way a lower marginal tax rate would.

The same is true of the current Republican obsession with sharply expanding the child tax credit to show how much the party loves middle-class and lower-income families. The parent or parents will have less of a tax bill, but their marginal tax rate won't change. (The credit is partially "refundable," which means the family may get money even if it pays no income tax.)

To gin up a sluggish American economy, both John Kennedy and Ronald Reagan slashed personal income tax rates from top to bottom. The cuts weren't tied to reductions in spending or to the elimination or clawbacks of personal tax deductions. (For his second big tax bill, which took place five years after the first one, Reagan did do away with numerous tax shelters, but personal tax rates were knocked down.)

Contrast their approach to what Republicans did this time to individuals: They got rid of or sharply curtailed numerous deductions but didn't slash the tax rates. In fact, for some upper-income earners—the people who disproportionately supply the savings necessary for investments that improve the standard of living—the marginal rate will go up.

Unlike the JFK and Reagan efforts, the GOP's work on the personal side was pitiful, doing next to nothing to boost the economy. Never in the annals of tax-cutting history has so much effort been expended to achieve so little. Republicans would have been better off enacting a 10% reduction in rates for everyone. To make sure all workers got higher paychecks, they could have repeated what was done in 2011–12 and knocked off the first two points of the federal payroll tax.

• **Capital gains.** This is a real stunner for a party that's supposed to be the champion of promoting economic growth: Not once during the months of putting together a tax-cut bill was the idea of reducing the levy on capital gains ever seriously entertained. Cutting this rate is a powerful twofer: Revenues always go up *immediately*, and productive investment is boosted. The instant extra money could have "financed" extra tax cuts. What's not to like? Apparently, like cowardly lions, Republicans feared this economy-boosting measure would open them up to the charge that they favor the "rich." Well, they should have learned long ago that Democrats will hurl this false accusation no matter what.

Nonetheless, the GOP is lucky. The economy is gaining speed just from the fact that, unlike during the Obama years, Washington isn't daily dreaming up new ways to hobble business. President Trump's deregulation push is bearing fruit. And the good of whacking the corporate tax rate and meaningfully cutting the tax on partnerships and other so-called pass-throughs (whereby profits are passed directly to individual owners as personal income) will overcome the other, oft egregious shortcomings of what the Republicans have wrought.

# THE FORBES 2017 ALL-STAR EATERIES IN NEW YORK

*The only thing hotter than big tech stocks this year has been the New York restaurant scene, with countless—and some astonishingly creative—eateries opening and so many established ones reaching new heights of excellence. Of course, no industry is immune to creative destruction, and a number of once outstanding gastronomical meccas have either slipped or disappeared from our firmament. Our stellar team of ever-discerning tasters—*Forbes *editor Randall Lane,* Forbes *contributor Richard Nalley and preeminent media maven Monie Begley, as well as brothers Bob, Kip and Tim—herewith unveil their list of where you can enjoy the city's most savory comestibles.*

★★★★

**Aska**
**Atera**
**Bâtard**
**Blue Hill**
**Daniel**
**Del Posto**
**Eleven Madison Park**
**Gotham Bar and Grill**
**Gramercy Tavern**
**The Grill**
**Jean-Georges**
**La Grenouille**
**Le Bernardin**
**Majorelle**
**Marea**
**The Modern**
**Per Se**

**Daniel** is still stunning and hard to beat in a town of exceptional dining. At **Majorelle** you will be served—impeccably—one of the best meals you've had in ages, traditional French fare with Moroccan influences and a contemporary flair, in a classically appointed dining room with magnificent floral arrangements in the Masson family tradition. Forget dieting—desserts here are an absolute must. Another new source of a most memorable meal is **The Grill**, which occupies part of the space of the old Four Seasons. Walking into this landmark is like seeing an old friend who's discovered the fountain of youth. It's dinner as theater: superb food that doubles as outstanding art. Like the musical *Hamilton*, this show is expensive—and worth every cent. An additional choice for those who are not cost-conscious is **Eleven Madison Park**, which has undergone a total renovation. The result is simply stunning, architecturally and gastronomically. **The Modern** is another exceptional culinary temple that closed down operations for several months for a highly successful renovation. The tasting menus here combine the artful and the sophisticated.

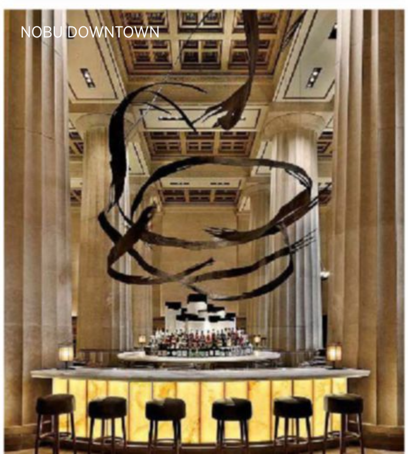
## CLASSICS

*These enduring epitomes of eating excellence have been crucial in establishing New York as the cuisine capital of the world.*

**Aquavit**
**Nippon**
**Nobu Downtown/Nobu 57**
**One if by Land, Two if by Sea**
**Peter Luger Steak House**
**The River Café**
**Shun Lee Palace**
**'21' Club**


MAJORELLE


THE GRILL


NOBU DOWNTOWN

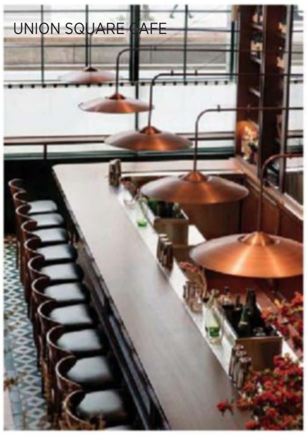

GOTHAM BAR AND GRILL


THE MODERN

ERIC LAIGNEL; ADRIAN GAUT

★ ★ ★

| | | |
|---|---|---|
| ABC Kitchen | Gabriel Kreuther | Michael's |
| Ai Fiori | Il Buco | Momofuku Ko |
| Antonucci Cafe | JoJo | Monkey Bar |
| Aretsky's Patroon | Junoon | NoMad |
| Avra Madison | Keens Steakhouse | Perry St |
| Café Boulud | La Vara | Porter House Bar & Grill |
| Carbone | Le Coucou | The Simone |
| CUT by Wolfgang Puck | Maialino | Union Square Cafe |
| Fusco | Marc Forgione | Vaucluse |
| | The Mark Restaurant | |


UNION SQUARE CAFE


VAUCLUSE

After two decades, **JoJo** closed for a year-long renovation, its antique setting replaced by a new, sparkling, cool, intimate version. Beloved traditional dishes have become nightly specials. The new menu soars, creating course after course of American classics with a masterful mix of ingredients. **Fusco** is chef Scott Conant's tribute to his Italian grandmother. And what an homage it is—the room's beauty enhanced by softly lit chandeliers and banquettes encircling the space. The food is bewitching—the diver scallops are perfection, the desserts divine. **La Vara** uniquely and delicately combines Spanish, Sephardic and Moorish influences, which make a meal here a must for any who savor innovative culinary excellence. Reopened in a big, new and beautiful location, **Union Square Cafe**'s take on its classic dishes—as well as many new ones—is just as scrumptious as ever. Reservations made well in advance are a must. **Keens Steakhouse** deservedly remains a magnet for red-meat eaters. The plentiful servings and big-pour cocktails are enhanced by the dark-wood, 1880s-saloon vibe and the famous clay-pipe-hung ceiling. **Il Buco** is a cozy, faux-rustic, tin-ceilinged artisanal Italian eatery that has been attracting downtown scenesters for years with its flavorful offerings and noteworthy wine list. Another enduring member of the Three Star firmament is **Aretsky's Patroon** with its always enticing American-based menu headlined by New York's tastiest crab cakes. Dark and sexy, with the aroma of a wood-burning grill, **Marc Forgione** may be one of the Big Apple's most underrated gems. The selections from its farm-, ocean-, forest-to-table kitchen pack in the patrons. **Gabriel Kreuther** serves up creative and superb dishes, such as a sturgeon-and-sauerkraut tart topped with caviar. The setting is an airy room with some delightfully eccentric touches. **Perry St**'s deliciously diverse menu of new American cuisine is perfectly complemented by the understated modern decor and friendly, low-key service. Among **NoMad**'s delectable delights is the glistening roast chicken for two, with foie gras and truffles rubbed under the skin. Created by master chef Daniel Humm, this is one of the city's signature dishes.


MAIALINO

EMILY ANDREWS; CONNIE ZHOU; ELLEN SILVERMAN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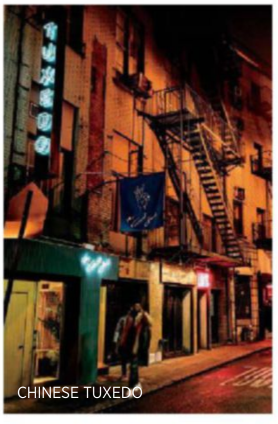
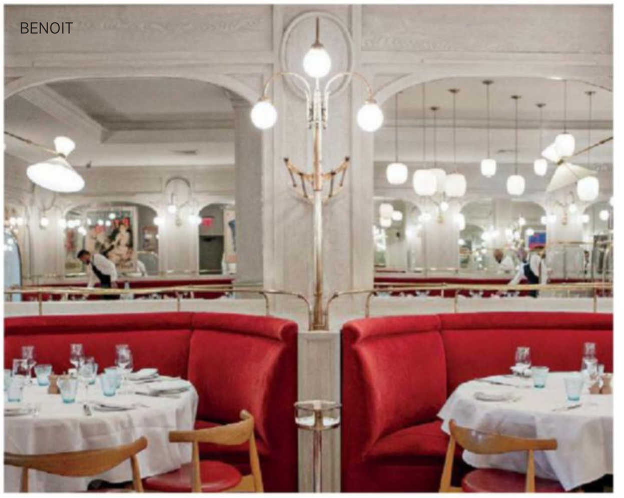
# SPECIAL

**abcV with Jean-Georges**—Leonardo himself couldn't render these vegetarian dishes more vividly and artfully—or deliciously.
**Al Vaporetto**—Venetian classics with a flair served in a romantic, cozy setting. Save room for the perfect crème brûlée or the Italian version of a floating island.
**American Girl Place Cafe**—Young girls and their dolls, perfect together.
BBQ ROUNDUP: **Dinosaur Bar-B-Que / Fette Sau / Hometown Bar-B-Que / John Brown Smokehouse / Mighty Quinn's**.
**Benoit**—Beautiful bistro, fantastic fare.
**Café Centro**—Grand Central location and tip-top food have made this the perfect place for business breakfasts. Also busy at lunch and increasingly so at dinner.
**Center*Bar**—The nearby Christopher Columbus statue is under assault, but no one can fault the fine wines, imaginative cocktails and delightful small-plate fare found here.
**Chinese Tuxedo**—The jewel of Chinatown, set in a former opera house. The flavors of each dish are amazingly unique.
**Chumley's**—Some of the best American bar food on offer at this restored speakeasy, which in the 1920s boasted a glittery literary following.


CHINESE TUXEDO

**Cote**—Outstanding Korean steak house KOs the competition. Guests cook meat over in-table grills, but waiters will swoop in quickly if it looks like a beautiful piece of beef might be ruined.
**Cowgirl**—Funky, fun West Village spot offering some mouth-watering Western/Southwestern cooking.
**Grünauer Bistro**—Provides a variety of wondrous Wiener schnitzels, goulash, red cabbage and other authentic Austrian classics. Elegant setting, impeccable service.
**Hao Noodle**—Turns traditionally pedestrian street-food dishes into fine dining.
**I Sodi**—A Tuscan treasure set in the West Village.


L'ARTUSI


BENOIT

**Il Cantinori**—Another Village institution serving first-rate Tuscan fare. Patrons anticipate the long list of daily specials.
**Italienne**—Sensationally and successfully blends northern Italian and southern French cuisines. Decor combines old-world charm with a modern aesthetic.
**L'Artusi**—Tough to get in. And no wonder, what with its wondrous wine list and out-of-this-world Italian comfort food.
**Maison Pickle**—Excels in classic American favorites. Final excess: heavenly 24-layer chocolate cake.
NO-BULL BURGERS: **Aureole's Liberty Room / bar Sardine / Black Tap / burger joint / Corner Bistro / Ear Inn / The Happiest Hour / J.G. Melon / Minetta Tavern / Shake Shack / The Spotted Pig / Tetsu / Upland**.
**Nur**—Eye-opening newcomer from Tel Aviv's celebrity chef Meir Adoni. Tantalizingly tasty food exudes high energy. Most dishes are served on platters, family-style. Everyone is soon reaching, passing and spearing.
PIZZA PERFETTA: **Bleecker Street Pizza / Di Fara / Emily / Joe's / John's of Bleecker Street / Kesté / Lucali / Louie and Ernie's /Marta / Martina / Pizza Beach / Prince St. Pizza / Roberta's / Table 87 / Waldy's Wood-Fired Pizza & Penne**.
**The Polo Bar**—Equine artwork is no match for the scene of people who come to be seen here, and neither can hold a candle to the great cocktails and fine fare.
**Quality Eats**—All offerings are generous and delicious, and, best of all, the steaks and fish are priced at or below $31. Sides are not to be missed; desserts are outstanding, especially the crème brûlée cake.
**Sadelle's**—Unbeatable bagels, unsurpassable salmon salad, great grilled-cheese sandwiches and fabulous French toast are among the gems on this matchless menu.
**St. Anselm**—Outstanding steaks and sumptuous seafood washed down with unconventional yet high-quality wines and cocktails are yours to be had at this rustic Williamsburg grill.
**White Gold Butchers**—This butcher-shop-cum-restaurant offers the most magnificent meats imaginable.

PIERRE MONETTA; SARAH VAN LIEFDE

# LeaderBoard



SEAT OF POWER

## PATRIOT'S PLACE

**AT WORK,** New England Patriots owner and five-time Super Bowl champ Robert Kraft, 76, is never far from the NFL dynasty that has made him a billionaire several times over. His office sits inside Gillette Stadium, the Foxborough, Massachusetts, arena Kraft built and to which he commutes from his home in suburban Brookline. Around the corner a showroom displays the five Vince Lombardi and nine conference championship trophies won by the Patriots. (Kraft

PHOTOGRAPHED BY MARTIN SCHOELLER FOR FORBES purchased the team in 1994 for $172 million using profits from his paper-and-packaging conglomerate.) A few steps away is a private elevator he takes to the Pats' locker room and sidelines on game days.

The office, which is next door to his son Jonathan's, shares the space that serves as headquarters for Kraft's other ventures, including his Major League Soccer team, the New England Revolution, and one of his paper-and-packaging manufacturers, International Forest Products.


Kraft embraces Indianapolis Colts center Jeff Saturday at the end of the four-month NFL lockout in 2011. Kraft is considered to have been instrumental in bringing it to a close just five days after his wife, Myra, died of cancer.

An Emmy for outstanding achievement in a sports series, won in 2007 for the *Patriots All-Access* television show.


January 1997 included a New England Super Bowl appearance and President Bill Clinton's second-term inauguration. Clinton signed a Patriots hat for Kraft: "We've had good years."

Shortly after Kraft received his 2005 Super Bowl ring, he visited St. Petersburg, Russia, at the invitation of then Citigroup chairman Sandy Weill. Joining Rupert Murdoch, Weill and several others, Kraft met with Vladimir Putin at Konstantinovsky Palace. "Sandy said to me, 'Show the president your ring,'" Kraft says. "So I took it out, and you can see he's holding it there."

Four duplicate Super Bowl rings too large to wear sit on Kraft's shelf. (He recently added a fifth, marking last season's Super Bowl win. The five have more than 750 diamonds among them.) There are also three rings from AFC Championship games.

An orchid sent by longtime friend Elton John and his family for Kraft's 76th birthday in June. The card is signed by John's family: "Happy birthday, with all our love, Elton, David, Zachary & Elijah."

Without the Jackson 5, Kraft might not own the Patriots. The team's financially troubled original owners put the stadium in Foxborough up as collateral to promote the pop group's 1984 Victory Tour, with plans to pay back mounting debts. But the deal ultimately backfired, only worsening the owners' woes. It was the catalyst Kraft needed to purchase the venue, bringing him a step closer to scooping up the Pats in 1994.


Growing up in an observant Jewish family, Kraft never played football in high school because he wasn't permitted to travel during the Sabbath. As a Columbia University freshman in 1959, though, he walked onto the school's team. He played halfback and safety for three years, wearing No. 20.

When Gillette Stadium opened in 2002, Kraft remembers U2's "Beautiful Day" playing over the loudspeakers during a sound check while he sat in the stands with his son Jonathan. "I got emotional, and I got tears," says Kraft, who privately financed the stadium's construction. "I mean, we had everything on the line." Kraft told Bono and U2, which has held several concerts at Gillette, about that moment, and the foursome sent him a Gretsch electric guitar signed by each of them. The lyrics to "Beautiful Day" run along the instrument's edge.

"It's gonna be hot out there. If you get real hot, here's a hat," Kraft remembers telling the Dalai Lama in May 2009 when the Buddhist leader spoke to 15,000 people at Gillette Stadium, handing him a Patriots cap. "He walked out, and he put it on."

"That was the beginning," Kraft says of the Tuck Rule, a controversial NFL decision—involving a quarterback dropping the ball midpass—often credited with helping the Patriots win their AFC championship game against the Oakland Raiders in 2002 (and, ultimately, their first Super Bowl). Kraft's copy of the photograph sports a note from Jon Gruden, the Raiders' coach at the time: "It was a fumble."

A "Kraft" ambigram sent by *Da Vinci Code* author Dan Brown, a friend. Kraft says the two (and their wives) appeared as extras in scenes shot at the Louvre in the 2006 *Da Vinci Code* movie.

The Krafts and the Kennedys go back decades. During the 1960s Kraft worked a stint in politics, serving as chairman of Boston's Newton Democratic City Committee. He also helped Senator Ted Kennedy *(pictured, right, with Kraft's family)* run his reelection campaign. In 1976 Kraft hosted a campaign party for Kennedy at his Brookline home.

Known for wearing sneakers no matter the occasion, Kraft has two pairs of Nikes beside his desk. Nike has even had special-edition sneakers made in his name, like the Air Force 1 Ultra Flyknit Low "RKK" (Kraft's initials).

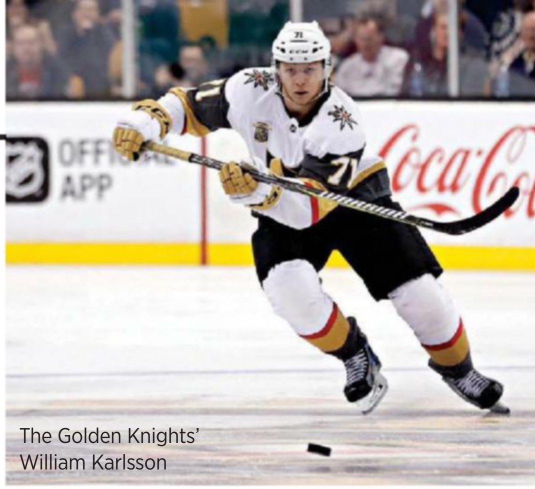
**BY MICHELA TINDERA**
PHOTOGRAPHS BY JONATHAN KOZOWYK

LeaderBoard

SPORTSMONEY

# THE MOST VALUABLE HOCKEY TEAMS

**WITH THE SPEED** of a slap shot, National Hockey League franchise values have increased at 15%, their fastest pace in three years; the average club is now worth $594 million. Profits in the NHL—which this season includes a new team, the Vegas Golden Knights—increased significantly, too, by 20% to an average of $18 million. For more, including our list of the league's top-earning players, visit forbes.com/nhl-valuations.



The Golden Knights' William Karlsson

## GOLDEN RETURNS

The $500 million paid by the Vegas Golden Knights to join the NHL is a good baseline value for hockey franchises—and illustrates the league's substantial financial success.

The inflation-adjusted price of admission to the NHL has increased at a 7.4% compound annual rate since 1967 when compared with the Knights' fee. The next round of expansion (1970) has returned 5.8%, and the most recent expansions (1992, 1997) have done the best: 7.7%.

Put another way, hockey owners have averaged a 7% annual return since the NHL's first major expansion. The S&P 500, by contrast, has posted an annual price appreciation of just 2.5% in that time, net of inflation—and even if you include dividends, that's still just a 5.6% return.

| | TEAM / CURRENT VALUE ($MIL)[1] | 1-YEAR % CHANGE VALUE |
|---|---|---|
| 1 | **NEW YORK RANGERS** $1,500 | 20% |
| 2 | **TORONTO MAPLE LEAFS** 1,400 | 27 |
| 3 | **MONTREAL CANADIENS** 1,250 | 12 |
| 4 | **CHICAGO BLACKHAWKS** 1,000 | 8 |
| 5 | **BOSTON BRUINS** 890 | 11 |
| 6 | **LOS ANGELES KINGS** 750 | 25 |
| 7 | **PHILADELPHIA FLYERS** 740 | 3 |
| 8 | **VANCOUVER CANUCKS** 730 | 4 |
| 9 | **DETROIT RED WINGS** 700 | 12 |
| 10 | **PITTSBURGH PENGUINS** 650 | 14 |
| 11 | **WASHINGTON CAPITALS** 625 | 9 |
| 12 | **EDMONTON OILERS** 520 | 17 |
| 13 | **DALLAS STARS** 515 | 3 |
| 14 | **VEGAS GOLDEN KNIGHTS** 500 | N/A |
| 15 | **SAN JOSE SHARKS** 490 | 4 |
| 16 | **ANAHEIM DUCKS** 460 | 11 |
| 17 | **ST. LOUIS BLUES** 450 | 45 |
| 18 | **MINNESOTA WILD** 440 | 10 |
| 19 | **CALGARY FLAMES** 430 | 5 |
| 20 | **OTTAWA SENATORS** 420 | 18 |
| 21 | **NEW JERSEY DEVILS** 400 | 25 |
| 22 | **NEW YORK ISLANDERS** 395 | 3 |
| 23 | **TAMPA BAY LIGHTNING** 390 | 28 |
| 24 | **COLORADO AVALANCHE** 385 | 7 |
| 25 | **NASHVILLE PREDATORS** 380 | 41 |
| 26 | **WINNIPEG JETS** 375 | 10 |
| 27 | **CAROLINA HURRICANES** 370 | 61 |
| 28 | **BUFFALO SABRES** 350 | 17 |
| 29 | **COLUMBUS BLUE JACKETS** 315 | 29 |
| 30 | **FLORIDA PANTHERS** 305 | 30 |
| 31 | **ARIZONA COYOTES** 300 | 25 |
| | **LEAGUE AVERAGE** 594 | 15 |

[1]Enterprise value (equity plus net debt) of team based on current arena deal (unless new arena is pending).

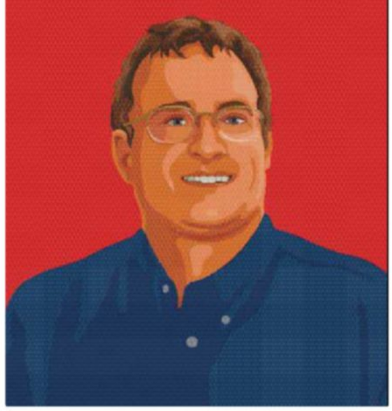
RICHEST BY STATE

# INDIANA

POPULATION: **6.6 MILLION**
2016 GROSS STATE PRODUCT: **$342 BILLION** (1.5% GROWTH)
GSP PER CAPITA: **$51,546** (RANKS NO. 28 NATIONWIDE)
NUMBER OF BILLIONAIRES: **3**
RICHEST:
**CARL COOK**
**NET WORTH: $8.1 BILLION**

**FOR OVER 50** years, Cook Group's catheters, filters and stents have helped patients get healthy, and proceeds from their sales make up the bulk of heir and CEO Carl Cook's fortune. Lately, though, the company's IVC filters, spider-shaped devices used to prevent blood clots, have been at the center of roughly 3,000 lawsuits from patients alleging that they're faulty. The company won its first trial in November after a jury determined that the plaintiff—a patient whose filter got stuck inside her, causing internal injuries—failed to prove the filter was defective. But Cook, which insists its filters work, will face at least two more trials in 2018.

The Cook clan has long kept a low profile. Carl's founder father, Bill, hated being on The Forbes 400. "Every nut in the book is going to be after me now," a colleague recalled him saying after joining the list in 1988, according to a 2008 biography, *The Bill Cook Story: Ready, Fire, Aim!* Carl, 55, has a similar attitude. "Whenever [*Forbes* has] contacted us, we've pretty much told them to go to hell," he said in the book. True to form, Cook wouldn't comment for this story.



SPORTSMONEY BY MICHAEL OZANIAN AND KURT BADENHAUSEN; RICHEST BY STATE BY MICHELA TINDERA
ILLUSTRATION BY CHRIS LYONS FOR FORBES; AP


Wounded Warrior Project
helped me reclaim my life.
I AM LIVING PROOF
WOUNDED WARRIOR
SEAN KARPF
HELP MAKE AN IMPACT AT
iamlivingproofwwp.org
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WOUNDED WARRIOR PROJECT

# PROPERTY PROS

Keeping the home fires burning with the Forbes 30 Under 30, in 30 words or less.

## SUNDEEP KUMAR, SAM BERNSTEIN

***LoftSmart*** | 25, 23

The graduates of incubator AngelPad created the first national transactional marketplace for off-campus student housing. Seeded with $5 million, LoftSmart has more than 250,000 leases available for near-instant booking.

## SHRUTI MERCHANT, KERRY JONES

***HubHaus*** | 24, 28

Jones and Merchant tackle L.A. and Bay Area lodging woes with community housing for professionals. So far 375-plus residents in 66 homes enjoy perks like free Wi-Fi and wine nights.

## DAVID WALKER

***Triplemint*** | 29

The Yale alum's online brokerage bypasses Realtors, using "predictive analytics" and other big data to match buyers and renters for not-yet-listed properties. Revenue for 2017 could hit $6 million.

## HASIER LARREA

***Ori*** | 29

Live like the Jetsons with this MIT grad's origami-inspired furniture, backed by $6 million from Khosla Ventures. The robotic furnishings transform from bed to dresser to desk and back.

## DAVID MAGID

***YSG Solar*** | 29

The New York City company, founded by the son of a Peruvian immigrant, designs, finances and installs custom solar projects for homeowners. Revenue in 2017 exceeded $3 million.

## JEMUEL JOSEPH, ALEXIS RIVAS

***Cover Technologies*** | 24, 24

Combating L.A.'s housing shortage, Cooper Union grads design, secure permits for and construct backyard prefab structures up to 1,200 square feet. They've raised $1.6 million from General Catalyst, Khosla Ventures, others.

## BRIAN JONES, LUKE SCHOENFELDER

***Latch*** | 28, 28

Lost your house keys again? Open Latch's smart locks with your phone, keycard or PIN code; admit visitors and package deliveries remotely, too. The duo has raised $26 million.

## AJAY YADAV

***Roomi*** | 30

Party animals and early risers alike can find the perfect pad thanks to Yadav's app, which has secured $17 million in financing to help all personality types find like-minded housemates.

30 UNDER 30 BY ALEXANDRA WILSON
ILLUSTRATIONS BY AARON SACCO


The MACALLAN
HIGHLAND SINGLE MALT SCOTCH WHISKY
12
TWELVE YEARS OLD
EXCLUSIVELY MATURED IN SELECTED SHERRY OAK CASKS FROM JEREZ, SPAIN
DISTILLED AND BOTTLED BY THE MACALLAN DISTILLERS LTD
PRODUCT OF SCOTLAND
The MACALLAN
HIGHLAND SINGLE MALT SCOTCH WHISKY
12
TWELVE YEARS OLD
DOUBLE CASK
PRODUCT OF SCOTLAND
SHERRY OAK 12
DOUBLE CASK 12
UNLEASH THE FLAVORS OF THE MACALLAN WITH AUGMENTED REALITY
A RICH CLASSIC MEETS ITS SMOOTH CONTEMPORARY COUNTERPART. THE MACALLAN 12 YEAR RANGE. MAKE YOUR STATEMENT.
SCAN TO LAUNCH A TWO 12'S EXPERIENCE

# LeaderBoard

## YOUTUBE STARS

**DUDE PERFECT**
Five friends and their group mascot—a guy in a panda costume—perform stunts and stupid tricks, such as wrestling while encased in bubble wrap.

**LOGAN PAUL**
The video blogger, who sticks to topics like his dog, has transitioned to clothing design with a hit brand, Maverick.

**SMOSH**
Anthony Padilla and Ian Hecox *(pictured)* were comedy-show pioneers on YouTube but split up in June.

**DANIEL MIDDLETON**
Since launching his channel in 2012, the British Minecraft player has amassed over 11 billion views, published a graphic novel and embarked on a tour of 50-plus shows, including 4 sold-out nights at the Sydney Opera House.

**EVAN FONG**
Fong plays ultrapopular games like Grand Theft Auto and Call of Duty, and sponsors shell out up to $450,000 to appear in his videos.

**RYAN TOYSREVIEW**
The elementary-school-age Ryan has every kid's dream "job": reviewing toys.

**FELIX KJELLBERG**
Kjellberg, a.k.a. PewDiePie, once topped our list but had a terrible 2017: Some advertisers dropped the gamer after incidences of racist images in his clips. But he still has nearly 60 million followers, and his ability to draw a crowd has spurred some brands, such as Razer and Origin PC, to crawl back.

**MARK FISCHBACH**
The gamer's 19 million subscribers know him as Markiplier, and given his reputation for dramatic play-by-play commentary, it's no surprise that he recently did a sketch-comedy tour across the U.S. and Europe.

**JAKE PAUL**
A video blogger like his older brother, Logan (No. 5), the ex–Disney Channel star now has a talent-management company, too.

**LILLY SINGH**
She translated her inspirational video diaries into a six-figure advance on the *New York Times* bestseller *How to Be a Bawse.*

| | | | |
|---|---|---|---|
| 1. | DANIEL MIDDLETON | $16.5 MIL | *Games* |
| 2. | EVAN FONG | $15.5 MIL | *Games* |
| 3. | DUDE PERFECT | $14 MIL | *Stunts/tricks* |
| 4. | MARK FISCHBACH | $12.5 MIL | *Games* |
| 4. | LOGAN PAUL | $12.5 MIL | *Video blogs* |
| 6. | FELIX KJELLBERG | $12 MIL | *Games* |
| 7. | JAKE PAUL | $11.5 MIL | *Video blogs* |
| 8. | RYAN TOYSREVIEW | $11 MIL | *Children's toys* |
| 8. | SMOSH | $11 MIL | *Comedy* |
| 10. | LILLY SINGH | $10.5 MIL | *Video blogs* |

# ATTACK OF THE GAMERS

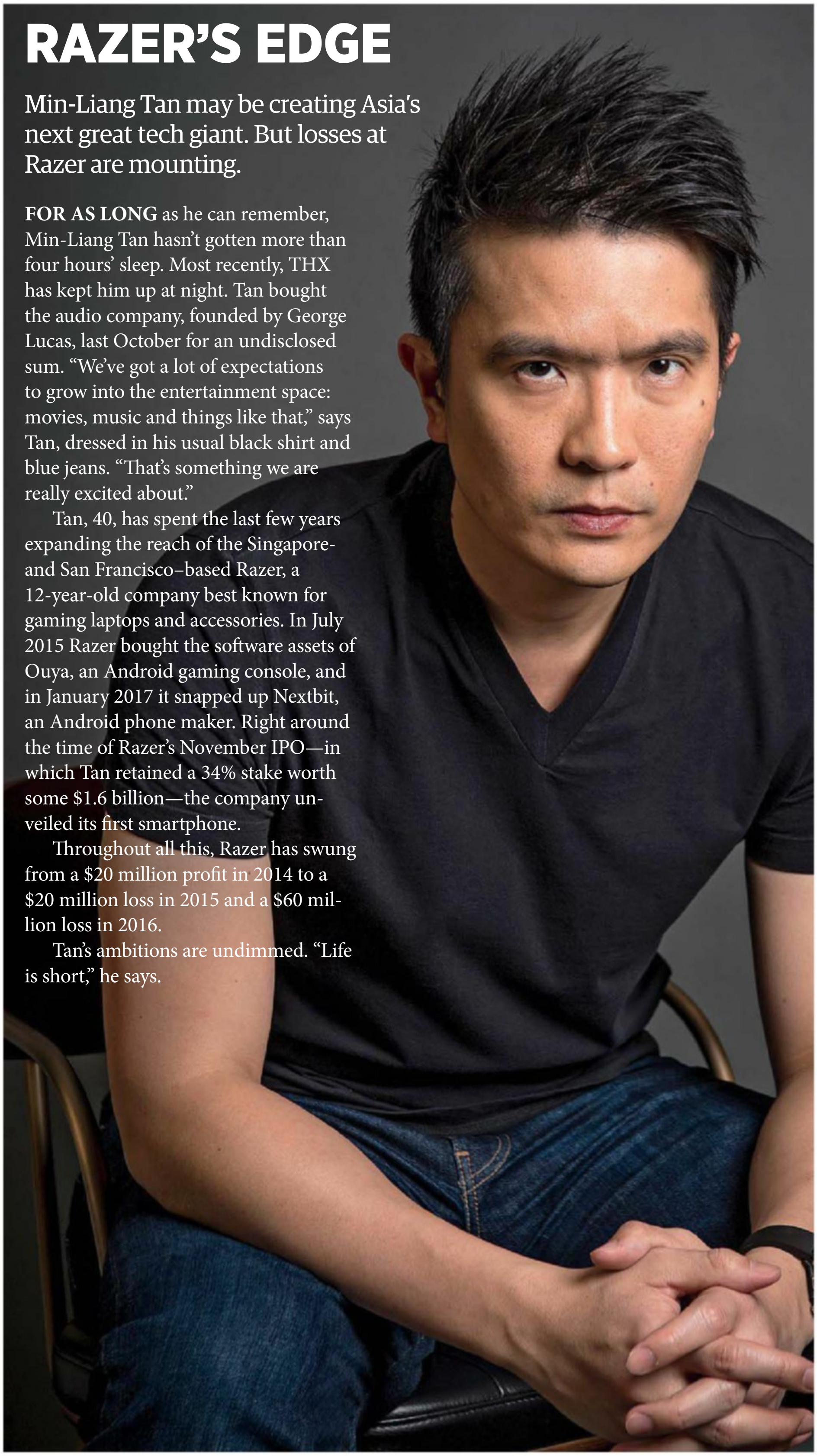
**THE HOTTEST** stars on YouTube might spend most of their time in pixelated worlds, but make no mistake: They're collecting millions of dollars in cold, hard cash. Nearly half of our annual list of the top-earning YouTube celebrities are gamers, and gamers occupy the top two spots. Viewers flock to their channels to watch them play the latest titles while delivering funny commentary. Six of the ten celebs ranked here are newcomers, who delight fans with videos of stunts, gleeful children and Call of Duty battles.

BY MADELINE BERG
CNANA RAUSCH / QUICKHONEY.COM

NEW BILLIONAIRE

# RAZER'S EDGE

Min-Liang Tan may be creating Asia's next great tech giant. But losses at Razer are mounting.



**FOR AS LONG** as he can remember, Min-Liang Tan hasn't gotten more than four hours' sleep. Most recently, THX has kept him up at night. Tan bought the audio company, founded by George Lucas, last October for an undisclosed sum. "We've got a lot of expectations to grow into the entertainment space: movies, music and things like that," says Tan, dressed in his usual black shirt and blue jeans. "That's something we are really excited about."

Tan, 40, has spent the last few years expanding the reach of the Singapore- and San Francisco–based Razer, a 12-year-old company best known for gaming laptops and accessories. In July 2015 Razer bought the software assets of Ouya, an Android gaming console, and in January 2017 it snapped up Nextbit, an Android phone maker. Right around the time of Razer's November IPO—in which Tan retained a 34% stake worth some $1.6 billion—the company unveiled its first smartphone.

Throughout all this, Razer has swung from a $20 million profit in 2014 to a $20 million loss in 2015 and a $60 million loss in 2016.

Tan's ambitions are undimmed. "Life is short," he says.

THEIR FAVORITE THINGS

## WHAT WAS YOUR MOST MEMORABLE HOLIDAY GIFT?

"Right after World War II, my father was saving to buy himself a new suit. Instead he bought me a brand-new red tricycle."
—Ron Baron, founder, Baron Capital

"The Barbie Dream House. It is basically where I manifested my adult life!"
—Carolyn Rafaelian, founder, Alex & Ani


"A picture of my son's essay from first grade saying that I was his hero and that he wanted to be just like me when he grew up."
—Mark Cuban, owner, Dallas Mavericks

"My folks didn't have much money, but I was very excited when I was 8 and my dad brought me home a cardboard box with holes in it—so I knew something was alive. There was a pigeon inside! He worked on the railroad, so he had caught it and brought it home. From that point on, I have always had pigeons."
—Frank VanderSloot, founder, Melaleuca health products

"I was about 11 years old and my brother was 8. We got up particularly early, went downstairs before my parents and ripped into our packages. We each got a pellet gun and proceeded to use the antique bulbs on the tree for target practice. It started out as each of us shooting just one—I don't remember who started it—and by the end, when our parents came down, all the antique bulbs were destroyed. Of course, the guns were taken away. I don't remember ever seeing them again."
—Bob Parsons, founder, GoDaddy

NEW BILLIONAIRE BY JESSICA LOUISE TAN; FAVORITE THINGS: AS TOLD TO MADELINE BERG
DAVID PAUL MORRIS/BLOOMBERG; ILLUSTRATIONS BY DAVID URBAN

THE 10-Q

# MOTHER OF THE CLOUD

Silicon Valley veteran Judy Estrin on coining the term "cloud computing," recruiting leaders who are women and saving Disney.

**What did you have in mind when you wrote your famous "Cloud vs. Strings" paper in 2000?**
We were advocating for the new converged voice/data infrastructure to look more like the Internet than traditional telephony. Today "cloud" has an expanded definition. It means massive computational power available "in the cloud"—i.e., over the internet.

**How should CEOs think about cloud technology?**
CEOs must think about the cloud. The cloud accelerates the adoption of new technology, which means it also accelerates business evolution. Your competitors are thinking about it. You can't just delegate [it] to your tech people.

**Yet even today, most corporate boards ghettoize information technology to the audit committee. Is that a mistake?**
Yes. Boards need to consider how technology drives strategic advantage. That's how Fred Smith and FedEx saw it when I served on FedEx's board. But Fred was ahead of his time.

**Speaking of FedEx, you were its first woman director.**
I was 36 when Fred asked me to join. It was hard at first. I was the only woman. I had built my career in Silicon Valley in a very different way, doing startups. I dealt with it by listening and finding ways where I could contribute. I built relationships. Today, I would have the confidence to make a faster start.

**You served on FedEx's board for 21 years—and on Disney's for 15.**
Disney was a very different company. Michael Eisner was the CEO. He and Disney had just gotten written up for being the worst board in America—too insular. My job was to help Disney understand the internet.

**When you were sitting on FedEx and Disney's boards, how much time did you allocate to that work?**
I probably spent more hours on Disney than on FedEx, partly because there was also more going on at Disney—the Comcast bid and the Eisner-to-[Bob] Iger succession. Board seats are not a full-time job, but you always have to be prepared and ready to jump in with both feet anytime.

**What advice do you have for people who want to join boards?**
Every company is being impacted by the accelerating change of technology. Boardrooms are crying out for directors who not only understand technology but also understand how to navigate through change.

**Paradoxically, often the best thing a board can do, you've said, is slow things down.**
Think of an athlete who may be agile, but you need a strong core. Companies need to be cross-trained. You can't run after every change.

**All boards say they want more women. How should they recruit them?**
You'll end up with better board members if your approach is, yes, we're interested in diversity. But we're also interested in these types of capacities or domain expertise, or type of leader. You really want to find a great board member first and then work to have diversity.

**Silicon Valley, your home turf, is still pretty hostile to women on boards. What's going on?**
The recruitment pools are too small. Board members come from venture firms or they're former CEOs. The resulting problem is not just the sexual harassment you read about. It's an insularity that hurts agility and dynamism.

JUDY ESTRIN SPOKE WITH RICH KARLGAARD, OUR EDITOR-AT-LARGE AND GLOBAL FUTURIST. THIS INTERVIEW HAS BEEN EDITED AND CONDENSED. FOR THE EXTENDED CONVERSATION, VISIT FORBES.COM/SITES/RICHKARLGAARD.

LIQUIDITY

*What if a billionaire became a cocktail?*

## THE WARREN BUFFETT

CREATOR:
**Bryan Schneider**
**Smith & Wollensky**
New York City
(a regular Buffett haunt)

INGREDIENTS:
5–6 mint leaves
½ oz. vanilla cherry syrup
2 oz. aged rum (12-year El Dorado recommended)
½ oz. fresh lime juice
4 oz. Coca-Cola
Marasca cherries

In a 2-ounce glass, muddle the mint leaves in the vanilla cherry syrup. Add next three ingredients and fill glass with crushed ice. Stir briefly. Top with more crushed ice. Garnish with mint leaves, cherries and drizzle of syrup.

INSPIRATION:
*"Warren Buffett is well-known for his love of Cherry Coke, so we're making a boozy riff on his favorite drink. Like a good Buffett stock, there's a venerable aged rum in it. But if you want to enjoy this cocktail in true Buffett style—he's a well-known teetotaler—just omit the rum."*

LIQUIDITY: AS TOLD TO ABRAM BROWN, LEAH BOTTONE AND GREG ANDERSSON
TIMOTHY ARCHIBALD FOR FORBES

FORBES @ 100

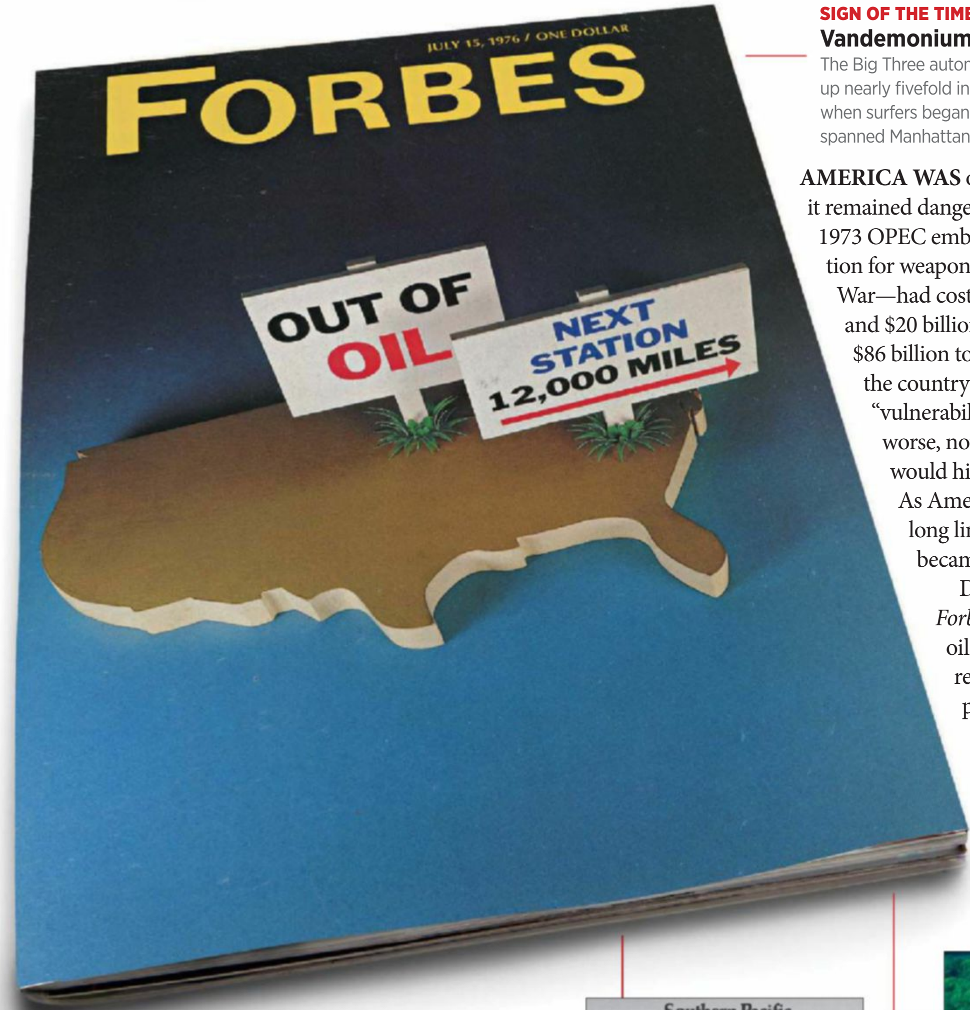
*During our centennial year, we're unearthing our favorite covers.*

# POWER CUT: JULY 15, 1976

**SIGN OF THE TIMES**

**Vandemonium**

The Big Three automakers were on track to sell 520,000 vans in '76, up nearly fivefold in six years. The trend had started "in California when surfers began using cargo vans as luxury campers. The fad has spanned Manhattan and [reached] into prim New England."




**AMERICA WAS** one of the world's two superpowers, but it remained dangerously dependent on foreign oil. The 1973 OPEC embargo—imposed on America in retaliation for weapons sales to Israel during the Yom Kippur War—had cost the United States between $10 billion and $20 billion in gross national product (upwards of $86 billion today) as well as 500,000 jobs. It exposed the country's extreme dependence on foreign oil, a "vulnerability to supply interruptions [that] will get worse, not better." Sure enough, another oil shock would hit in 1979 after the Iranian Revolution.

As America sank into another recession, blocks-long lines at gas stations nationwide again became a daily test of endurance.

Despite the warning calls sounded by *Forbes* and many others, reliance on foreign oil worsened in the ensuing decades, reaching a peak of nearly 3.7 billion imported barrels a year in the mid-2000s. That figure has declined by 22% since, as technological advances such as hydraulic fracking and horizontal drilling have offered access to new U.S. oil and gas reserves.

**NOTABLE AND NEWSWORTHY**

**Brighton Beach Millions**

Neil Simon didn't need to blow his own horn: He was a "one-man entertainment conglomerate" who earned in the mid–seven figures just for the film outline of *The Odd Couple;* he had also written 1976's *Murder by Death (below).*


**AMAZING AD**

**Yankee Doodle Diesel**

Southern Pacific launched a fleet of red, white, blue and gold trains to mark the country's bicentennial—freight locomotives that continued to do "a job we've been doing for 125 of the 200 years we're celebrating in 1976."

**THE EDITOR'S DESK**

**Their Highnesses**

More than 10,000 spectators attended the second annual gathering of hot-air balloonists, hosted by Malcolm Forbes at his Normandy estate. Each paid $2.20 (roughly $10 today) to see pilots from a dozen countries, all personally selected by Malcolm, maneuver their buoyant craft through the skies.

BY ABRAM BROWN
LEFT: ALAMY

# LeaderBoard

## CONVERSATION


**READERS OF OUR** December 12 issue would've been remiss had they swiped past Clare O'Connor's cover story on Forbes 30 Under 30 newcomer Whitney Wolfe Herd. A cofounder of dating app Tinder, Herd left the company and sued it for sexual harassment in 2014, then started Bumble, a dating app that lets women securely make the first move. O'Connor's piece gained salience from the recent avalanche of workplace-misconduct claims, noted @SirenofBrixton on Twitter: "May all victims of sexual harassment be able to serve revenge cold in the epic way this woman has." The rest of this year's talented tyros provoked reader admiration as well—especially those *way* under 30. Noted ProPublica politics reporter Jessica Huseman piquantly, "The youngest on the Forbes Media #30Under30 list is 12. Just in case you need help feeling useless today."

## ROSS' RUSE

The commerce secretary has been fudging his net worth for years—and readers reveled in taking Wilbur to the woodshed.

**@ALEXBURNSNYT:** "This is both a revealing story about Wilbur Ross and admirably honest on *Forbes'* part about how they believe they were duped."

**@JAYROSEN_NYU:** "You can't make this stuff up. Incredible story of Trump's Commerce Secretary just making stuff up. Lies upon lies."

**@SUSAN_HENNESSEY:** "Imagine being the kind of person with $700 million and being compelled to lie about another $2 billion."

**@GROSSDM:** "Can't imagine what would drive someone to lie about their wealth to get on the *Forbes* list. Maybe that's why I'm only worth $2 billion."

**@BRIANBEUTLER:** "Trump has put the ethical culture of the rich under the world's most powerful microscope, and wow is it diseased."

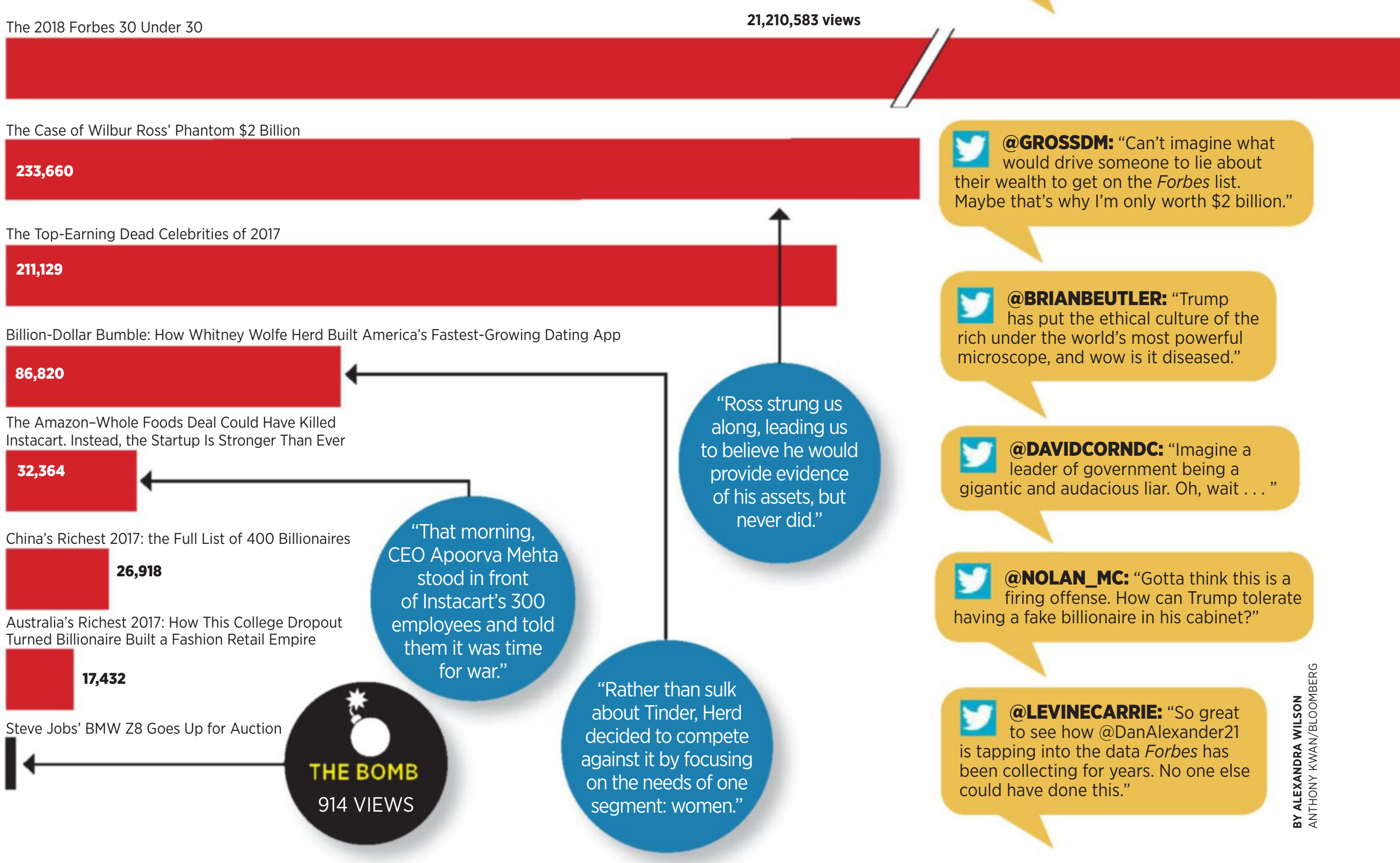
**@DAVIDCORNDC:** "Imagine a leader of government being a gigantic and audacious liar. Oh, wait . . . "

**@NOLAN_MC:** "Gotta think this is a firing offense. How can Trump tolerate having a fake billionaire in his cabinet?"

**@LEVINECARRIE:** "So great to see how @DanAlexander21 is tapping into the data *Forbes* has been collecting for years. No one else could have done this."

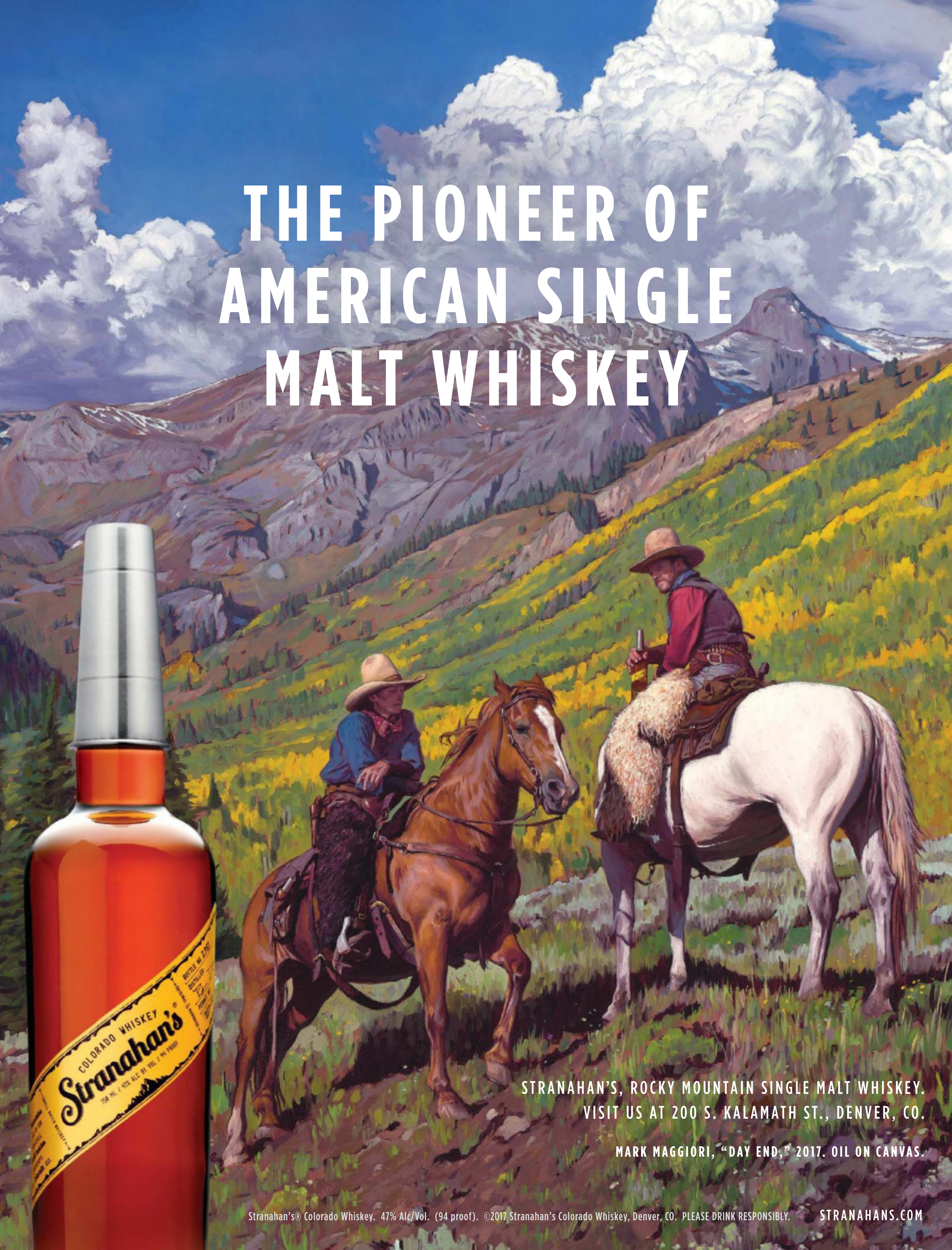
## THE INTEREST GRAPH

Youth will be served—with gargantuan page-view totals. This year's 30 Under 30 drew the most clicks from our December 12 issue by a factor of nearly 100.




BY ALEXANDRA WILSON

ANTHONY KWAN/BLOOMBERG


THE PIONEER OF
AMERICAN SINGLE
MALT WHISKEY
COLORADO WHISKEY
Stranahan's
STRANAHAN'S, ROCKY MOUNTAIN SINGLE MALT WHISKEY.
VISIT US AT 200 S. KALAMATH ST., DENVER, CO.
MARK MAGGIORI, "DAY END," 2017. OIL ON CANVAS.
Stranahan's® Colorado Whiskey. 47% Alc/Vol. (94 proof). ©2017 Stranahan's Colorado Whiskey, Denver, CO. PLEASE DRINK RESPONSIBLY.
STRANAHANS.COM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TO KEEP YOUR BUSINESS GROWING
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With the Spark® Cash Card from Capital One®, you earn UNLIMITED 2% CASH BACK on equipment, inventory, advertising, and everything in between, which could add up to thousands of dollars for your business.
Learn more by visiting CapitalOne.com/SmallBusiness
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SMALL GIANTS

## Dreaming of a Polyethylene Christmas

Not your typical Silicon Valley company, Balsam Brands sells fake Christmas trees and makes real profits.

BY SUSAN ADAMS

**THOMAS "MAC" HARMAN** grabs hold of the plastic-encased steel trunk of his company's 7-foot-5-inch Noble Fir and pulls off the top section. "This is a flip tree that's really cool," he says, as he turns the bottom two thirds upside down. The branches flatten over the metal base, which rests on four wheels, ready to be bagged and stowed in a closet until next year. One of Balsam Hill's most popular designs despite a $1,349 price tag, the fake Christmas tree comes "pre-lit," festooned with more than 1,000 LED bulbs.

TIM PANNELL FOR FORBES

Based in Redwood City, California, where it's surrounded by venture-backed tech startups like the cloud-storage company Box and the music-identification app developer Shazam, Balsam Hill's parent, Balsam Brands, stands out like Rudolph the Red-Nosed Reindeer. The 11-year-old company has raised no venture capital, has few recurring customers and sells the most seasonal of products. "From a business standpoint," says Harman, 41, "this is a stupid, stupid idea."

But the Stanford M.B.A. has made it work. Launched in late 2006, Balsam is expected to reach $120 million in revenue this year. Of the 100 million U.S. households that put up Christmas trees, according to a Nielsen survey, 81% put up fake ones. While 90% of the $1.2 billion fake-tree market is captured by mass retailers (like Wal-Mart and Home Depot) that sell trees made by multiple vendors—most at less than half the price of Balsam's—Balsam targets people who want to invest in a higher-quality tree.

To make them, Harman uses five factories in China, with some specializing in specific tree types or parts, like boxwood topiaries that have fake leaves instead of needles. For needle trees, he trademarked the phrase "true needle" to describe the polyethylene spikes that surround each hand-painted stem. Miss the smell of a fresh-cut tree? Balsam sells a $99 fragrance machine.

Harman traces Balsam's origins to 1999, when he paid his first holiday visit to his Korean-immigrant in-laws in Beaver, Pennsylvania. Remembering the live trees he grew up with in Cleveland, he cringed when he saw their fake one. "It was just a really sad, cheapo tree," he recalls. "The needles looked like green plastic sheets that had been put through a shredder and attached with wire."

At the time, he was 23 and working as a consultant in the Cleveland office of McKinsey. Two years later his father died of lung cancer at age 59. An only child, Harman took over his dad's struggling wire-product manufacturing plant. For the next seven years he juggled work, business school, the early days of Balsam and flights to Cleveland, until he finally sold the 30-employee company in 2007. The proceeds went to his mother, but Harman says the experience gave him confidence. He'd manufactured steel-wire products and used the internet to find new customers, and he believed he could do the same with Christmas trees.

After graduating from Stanford in the spring of 2005, Harman spent six months kicking around business ideas. Over coffee with Stanford friends at the Coupa Café in Palo Alto, he joked about selling Christmas trees online. His friends laughed, but when he searched, he found only a handful of rudimentary sites offering a limited selection. Since it would be a seasonal business, he figured he could run it part-time while pursuing other projects.

In June 2006, after connecting with a Stanford business school alum whose family ran a Chinese factory that manufactured artificial Christmas trees for the U.S. market, he traveled to Dongguan with a stack of photos and several guides showing the kind of detail he wanted to produce on 16 varieties of fake pine trees. With $120,000 he raised from friends and family, combined with savings from his McKinsey days, he ordered 15,800 trees, staggering delivery from the Chinese factory so he could pay for them in increments. He sold the trees from a website with descriptions he wrote himself and from a pop-up store at the Stanford mall. Maxing out his personal credit cards, he spent $300,000 on marketing. He hired a search-engine-optimization consultant but poured most of the money into pay-per-click ads, which drove Balsam's first-season sales to $2.9 million.

Early on, hiring was tough, with nearby tech startups offering fat salaries, nap pods and massage rooms. Harman's selling point was his com-




**Balsam Hill's 7-foot Silverado Slim Flip Tree, priced at $899, arrives in two pieces. Flip the lower portion up and the branches spread. Fit the top portion into the trunk, plug in an extension cord, and it's Christmas.**

JAMEL TOPPIN FOR FORBES; MODEL: LUNA TOPPIN, AGE 3


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mitment to being an atypical Silicon Valley startup. He encourages parents on staff to leave early to pick up kids and to work remotely as needed. He and his wife, Stephanie, a physician, have three children, aged 8, 6 and 2, and he helps coach a Little League team. In 2010, on the recommendation of a Stanford friend, he started hiring in the Philippines, initially just to handle online marketing. He soon discovered that his Filipino staffers, who cost 30% less than their U.S. counterparts, were skilled at customer service, graphic design, copywriting and operations, and he expanded the head count there to 75.

As sales rose, Harman and his staff struggled to manage a crushing workload for the six-week period when Balsam collects two thirds of its annual revenue. That requires a temporary army of 600 customer-service reps, up from Balsam's usual 20. He would prefer to stay busy year-round, but his attempts to diversify have failed: He has tried selling $139 pet beds, an assortment of lighting fixtures and $300 above-ground plastic swimming pools manufactured by the factories that produce Balsam's trees. He also bought a maker of low-priced Catholic items like plastic rosaries that sold for less than $1. Total losses: more than $1 million. Today non-Christmas merchandise still makes up less than 5% of Balsam's sales.

Meanwhile, reaching Christmas customers through online ads has grown more expensive. When Balsam started, Google AdWords delivered clicks for as little as ten cents each. Today the cost to appear at the top of a search for a term like "artificial Christmas tree" can run as high as $10 a click, and only a tiny fraction of people who click wind up buying. "Some people come to our website repeatedly but wait five years to buy a tree," Harman says.

Selling on Amazon is also a challenge. "I call Amazon a frenemy," Harman says. The site takes a 15% cut and requires vendors to communicate with customers through Amazon, which precludes Balsam from sending special product offers and from collecting data on Amazon purchases. But Harman has learned that Balsam has to be there because, according to a 2016 study by the cloud-marketing company BloomReach, more than half of all consumers start their product searches on Amazon. His strategy is to offer a limited selection on Amazon but focus on Balsam's own site, which accounts for more than 95% of the company's sales.

Last year, on the Monday before Thanksgiving, Amazon shut down sales of Balsam products after a spike in orders tripped a fraud filter. Harman says Amazon was unresponsive until he called a well-placed friend at the company who pulled strings. Balsam's products suddenly reappeared just as the company's float was making its way in the Macy's Thanksgiving Day parade. (An Amazon spokeswoman declined to comment on the incident, except to say that sellers "have access to 24/7 e-mail, phone and chat support.")

Harman also spends millions on cable and network TV ads and on product placement, including decorating the sets for the *CMA Country Christmas* special in Nashville. He relies on software that estimates the number of orders that come when the ads air, but the data have been inconclusive: "It's all extremely messy and inaccurate." Nevertheless, he says, the company has turned a profit every year since 2008.

Fluorescently lit and cluttered with artificial trees, wreaths and flowers, Balsam's headquarters is upstairs from a bank in a two-story 1970s office building. Harman says his Valley friends have made fun of him for trying to sign a 14-year lease (the best he could do was 9). "My friends will be on their fourth company in 20 years, and I still plan to be doing this," he says. "That's the weirdest thing in Silicon Valley." ✱

## HOW TO PLAY IT BY MARC GERSTEIN

There is an old saying on Wall Street: "Don't fight the tape." And in retailing, the tape clearly favors Balsam's frenemy **Amazon**, which has provided lucky stockholders a 30% average annual total return since 2002. Another option would be to buy **Amplify Online Retail ETF**, which is stuffed with the likes of Stamps.com, Etsy, Overstock.com and 36 other e-tailers. For those who really want to step on brick-and-mortar's throat, invest in **ProShares Decline of the Retail Store ETF**, which provides short exposure (daily return times minus one) to an index of 56 traditional retail stocks.

*Marc Gerstein is director of research at Portfolio123.com.*

**FINAL THOUGHT**

✱ *"The Christmas tree is a symbol of love, not money. There's a kind of glory to them when they're all lit up that exceeds anything that all the money in the world could buy."* —**ANDY ROONEY**

## MARGIN PROPHET

### RETAIL'S SAVIOR?

The apps of Toronto-based startup Tulip help physical stores by enabling staff to access product and customer information instantly and close a sale on the spot. Clients include Saks and Toys "R" Us. CEO **Ali Asaria** thinks Tulip—whose 2017 revenue *Forbes* estimates at $15 million—might help rescue brick-and-mortar retail.

***Give us an example of Tulip in action.***

We saw three main pain points with moms shopping for strollers at Toys "R" Us. One: "Is this the right model for me?" Two: "What if you don't have the right model in-store—can I get it shipped home?" Three: "Is it cheaper at a competitor?" Sales associates can now pull up prices from Amazon and a bunch of others.

***Do stores really want to tell customers they can get a product cheaper elsewhere?***

Toys "R" Us wanted to say, "If you're worried it's cheaper at Amazon, I can match that price for you."

***What about retailers that can't match?***

They can turn that part off.

***One day you'd like to be in industries such as medicine. How big can Tulip be?***

We're focused on an eventual $100 billion market size, so we're thinking very, very big. The theme: What will the future of work and software look like when every worker has a tablet or phone in their hand?

MARGIN PROPHET BY PETER CARBONARA

# NICHOLAS AIR: MAKING PRIVATE AIR TRAVEL PERSONAL

NJ Correnti pictured with the Citation Latitude

BY TONY VELOCCI

Choosing a private-aviation services provider can be a daunting task, with thousands of such companies competing within a growing market. Nicholas Air, while far from the largest, believes it offers a compelling value proposition that refined travelers can embrace: a best-in-class product that guarantees a superior flight experience. Founder and CEO **Nicholas J. (NJ) Correnti** explains his company's vision.

For more information on the Nicholas Air advantage and its various programs, visit www.nicholasair.com.

**Velocci: Private-aviation services, from charter to jet cards, is an extraordinarily crowded market segment, with low barriers to entry. How does Nicholas Air differentiate itself?**

**Correnti:** Think of Nicholas Air as a boutique provider with a selective base of several hundred members. We're not the most expensive provider, but we're not the cheapest, either. If all someone wants is transportation from point A to point B at the lowest possible cost, that's OK, but that's not Nicholas Air. We're in the business of providing a consistently superior travel experience.

Our clients know that when they arrive at the airport for their flight, the aircraft they requested will be waiting for them, and it will have the Nicholas Air livery. They also know all of their preferred amenities—from the magazines they like to read to the snacks and beverages they prefer—will always be on board. It's all about providing a highly personalized service.

**Nicholas Air started out as an aircraft management company, correct?**

That was in 1997, and our business has since evolved into a full-service provider of jet cards, fractional ownership and lease shares. Today our most popular program is the jet card; we've seen substantial growth in this area over the years. Also differentiating Nicholas Air is that our business model is not predicated on using someone else's aircraft to service its customers.

Unlike many jet card companies, we own and operate our own fleet. We employ no intermediaries whose aircraft are put out to bid based on their availability. Clients know they are buying services directly from a company that maintains, dispatches and operates its own aircraft, and that are flown by full-time Nicholas Air pilots. We believe this level of control translates into a much smoother, safer and more reassuring travel experience. It's an important distinction from, say, 95 percent of jet card providers, who are only brokers and own no aircraft of their own.

**You obviously have strong feelings about this part of Nicholas Air's business.**

Yes. I believe it's a very important distinction when comparing companies. Owning our fleet and maintaining full operational control at all times ensures a safer, more reliable private air travel experience. Our pilots are assigned and dedicated to a specific aircraft type, which greatly improves the crew's awareness and knowledge of the aircraft. All aircraft are maintained only by the manufacturer's authorized service centers, ensuring all maintenance is properly complied with. The commitment we make to our members is that they will enjoy a Nicholas Air experience when they book their travel with us, and the biggest part of that is the airplane and the crew. We know—because we own and fly them—that our airplanes are going to meet the expectations our members have of us.


Citation CJ3


Phenom 300


Citation Latitude

**Nicholas Air continues to manage aircraft for owners, does it not?**

Yes, and we're seeing that part of our business grow, because the business jet market segment is on the upswing again. In addition to maintaining aircraft for corporations and individuals, Nicholas Air can help owners generate revenue by leasing them back to us to supplement our core fleet, thus helping the owner offset the costs of ownership. We also can help owners operate their aircraft more cost-effectively by allowing them to piggyback on network savings for everything from fuel to scheduled maintenance and training. In addition, owners have access to our fleet when their airplane is out of service or when multiple aircraft are needed, ensuring they always have access to an aircraft.

**You refer to your clients as members. Is there a membership fee associated with purchasing flight hours from Nicholas Air?**

There are no recurring annual fees, initiation fees or membership dues like many other private-aviation companies charge. Our members simply pay for a block of hours up front when using the jet card, which grants them acceptance into our program and access to our fleet. It's very straightforward and transparent. But we do not allow just anyone to join. We vet each prospect to ensure they are a good fit for our program, which is why we refer to our client base as members.

**You described Nicholas Air's jet card as the company's core business. What makes it so popular?**

First, it's ideal for introducing people to private aviation and for anyone planning to travel between 15 and 60 hours a year. Second, there is no expiration date of the hours or aircraft repositioning fees. And third, the jet card gains the member access to our fleet, which averages 5 years old and newer. That's huge with our membership base, and there are not many in the industry that can say this. With many other aviation companies, people may not realize they're dealing with a service provider that claims it owns 1,000 airplanes, but in reality, doesn't.

**What's the cost of purchasing a jet card?**

The lowest price point is listed as $4,298 an hour.

**Your core fleet comprises a mix of jets and turboprops; I was under the impression that air travelers, given a choice, would prefer to travel on a jet. What's the rationale for turboprops in your fleet planning?**

We own and operate five PC-12s. In addition, we have a fleet of CJ3s, Phenom 300s and Phenom 100 jets, and the Citation Latitudes, which enable our members to fly coast-to-coast nonstop. The Pilatus is a great offering, with seating for up to eight people. Furthermore, we are the only company to offer a PC-12 in a jet card format, which appeals to cost-conscious individuals and corporate members.

The biggest appeal of the PC-12 is that it can land at many smaller airports that otherwise would be inaccessible. It's a private-aviation workhorse. Based on comparable cabin size, the Phenom 300 would be a good apples-to-apples comparison. On a 45-minute trip, the PC-12 would take about 10 minutes longer—not a huge difference—but cost about $1,500 less.

**Do you have any plans to expand the size of your fleet or add additional aircraft types?**

We try to add a minimum of two aircraft per year. Currently on our radar is the longer-range Longitude. Our decision whether to incorporate it into the fleet will be based on members' demand.

**Exactly who are your customers or members?**

Sixty percent are leisure travelers; 30 percent are business travelers and companies, including large corporations that need to supplement their corporate lift; and the remainder are individuals and retired couples who sold their business or aircraft and still want to continue utilizing private air travel. As much as 80 percent of all new business comes from referrals.

**Where does digital fit into your business strategy?**

We've had a lot of conversation internally about that. Our concern is the potential for social media to take away from person-to-person interaction with our members. We assign a 24/7 personal travel representative to every member. There's no calling a general number or going through prompts to reach a live person or leave a message. It's direct communication using a personal mobile phone number, and the representative will respond to whatever the member needs—from booking a flight to a special catering request to purchasing an anniversary gift. We don't want to risk losing the human touch.

Our biggest concern is the millennial generation, since they're all about digital communication, so it remains to be seen how important personal attention is to them. A large part of the Nicholas Air experience for our members is knowing that a dedicated representative is there and available to provide that high level of personalized service to them. That's a layer to the Nicholas Air culture of hospitality that technology cannot replace.

**You currently serve more than 9,000 airports throughout the Americas and the Caribbean. Do you have any near-term plans to expand your network?**

Nicholas Air is family-owned and operated, not private equity or funded by investors; no one dictates how we should or must run our business model, except for our members. We invest in our members, so where we fly and the aircraft we purchase all depends on what they have to say and need. Nicholas Air is not your run-of-the-mill private-aviation services provider; we listen and respond to our members' wishes. ■

SMART TRANSPORTATION

# Big Data for Big Cities

Moovit has created the Waze of public transit. Is this the app that can beat urban congestion?

BY ALAN OHNSMAN

Nir Erez (left) and Roy Bick founded Moovit to help bus and train commuters, encourage residents to ditch their cars and make cities more livable.

Like most suburbanites, Janice Monkowski, a piano teacher who lives in Danville, California, some 30 miles east of San Francisco, gets around mainly by car. For much of her life, public transit was not even an afterthought.

That changed recently when Monkowski, a self-described technophobe, discovered Moovit. When she goes to San Francisco to meet friends or catch the symphony with her husband, the smartphone app lets her plan bus and train trips down to the minute. "Moovit tells me where to walk and how long it might take to catch a bus to get to the train station," Monkowski says. "It had probably been 10 or 15 years since I'd ridden a transit bus."

In exchange for the free service, Monkowski lets Moovit track her trips. Much like the navigation app Waze, which follows its users on the road to determine optimal driving routes, Moovit aggregates Monkowski's location data with that of other nearby users to predict the most efficient public-transit trip between two locations. "Transit users have an even bigger problem than drivers," says Nir Erez, a 52-year-old Israeli serial entrepreneur who cofounded Moovit in 2012. Most commuters don't know when a bus might arrive—let alone how it might connect with another transit service—or when walking or bicycling might be faster, Erez says, speaking from his home in Tel Aviv: "Information is usually bad."

So bad that Moovit has become the world's most downloaded transit app. In just five years it has racked up 100 million users—roughly the same number as Waze, which Google bought for $1.1 billion in 2013. Moovit is available in 44 languages and 78 countries, and commuters in 1,500 cities, from Lexington, Kentucky, to London, Moscow and Hanoi, rely on it to get to and from work. In Los Angeles, 40% of its users access it in Spanish. In 2016 Moovit became the official transit app for the Summer Olympics in Rio de Janeiro, beating out Apple and Google, according to the company. When public transit doesn't get a user all the way to her destination, Moovit may connect her to bike-share programs or services like Uber.

Moovit's popularity has helped it attract a string of marquee investors. The company, which launched with $500,000 from Erez, has raised nearly $84 million from the likes of Sequoia Capital, Ashton Kutcher's Sound Ventures and BMW i Ventures. Its valuation reached $450 million, according to PitchBook. The investors have been lured by the potential to monetize Moovit's real-time transit information, which includes more than 500 million data points generated daily.

Now Moovit must prove it can convert that data into cash. The company says it is just now turning to monetization and won't disclose reve-

RONEN GOLDMAN FOR FORBES

nue, which remains negligible, according to *Forbes* estimates. But Erez and his investors say that it won't be hard to ramp up sales, and they believe the company is in the right place at the right time. Cities everywhere are battling congestion and pollution. This has fueled a frenzy around the concept of "smart cities," a somewhat amorphous idea that data from all forms of sensors, along with artificial intelligence and cloud-connected technologies, will help manage increasingly complex urban systems. Moovit's plan is to feed cities' appetite for transit data. "Urban mobility is a global concern," says Sequoia partner Gili Raanan, adding that Moovit's transit data could "dramatically improve the quality of life of our cities."

Buenos Aires and Madrid have signed up to be early customers of Moovit's Smart Transit Suite, a data portal with precise, real-time information on bus and train locations and usage, passenger wait times, optimal routes and more. "They have very granular data as to how people move around cities," said Andreas Mai, an executive vice president for Keolis, a French transportation-management company that works with transit services around the world. Keolis has invested in Moovit and will incorporate its data in pilot programs in certain cities that Mai wouldn't identify.

Moovit began taking shape in 2011, when Erez had just left a startup he'd cofounded and was training for a marathon. He had planned on a leisurely semiretirement of investing a bit in early-stage startups and competing in triathlons. But on long training runs around Tel Aviv, his friend Yaron Evron kept talking about a website he'd made for the local transit authority with a young computer scientist named Roy Bick.

An avowed transit nerd, Bick had taken it upon himself to help local commuters. Tel Aviv had recently reconfigured its bus system to accommodate a new rail line, changing routes and stops to feed more riders onto trains. Public information about new locations was poor. So Bick walked the city to log stops into a database he had built. He also tapped into transit-bus GPS information to turn his database into a real-time route-planning website.

Bick's work clearly had the potential to be useful well beyond Tel Aviv. And Erez, who had considered investing in Waze—also founded in Israel—understood that crowdsourced location data flowing from users' smartphones could provide the basis for creating comprehensive transit-trip planners everywhere. Erez, Bick and Evron founded Moovit the following year, with Erez becoming CEO and Bick overseeing operations. Evron never took a formal role. "I had a nice seven-month retirement, and then it was back to work in another startup," Erez says.

As Moovit has grown to 100 employees, with headquarters near Tel Aviv and offices in cities such as San Francisco, Athens and Rio, Erez and Bick are convinced they can help cities be more efficient in myriad ways. If demand surges on a specific route, for example, Moovit could suggest deploying more buses to serve it. "We look at the demand and the actual movement information, then look at the system infrastructure, all the routes and the timetables to understand whether it's optimized or not," says Bick, 37. Cities spend millions of dollars to survey residents about their use of public transit, and Moovit can provide better, more up-to-date information at a lower cost, he adds. Best of all: It's all built one data point at a time by people like Monkowski. "When I go to San Francisco, I don't want to drive," she says, noting the city's "terrible" parking and traffic. Moovit has given her another option: "It's very simple." ✱

## HOW TO PLAY IT
BY JON D. MARKMAN

Moovit represents a key, consumer-focused step in the digital transformation of cities. But at the next level of abstraction, governments need to provide underlying technology that allows buses, trains, taxis and cars to achieve total awareness of each other and the terrain. Into this breach comes tech-services firms like **PTC**, which develops software overlays that help make the connections seamless. Municipalities and companies use its ThingWorx platform to quickly build, analyze and manage transportation networks. Vodafone is using PTC's Smart City solutions to help reduce traffic congestion already. Soon the firm will also provide smart lighting, parking and air-monitoring services. The $7.2 billion Boston company logged $144 million in bookings in the latest quarter. PTC shares are up 40% this year and 225% over the past five years.

*Jon D. Markman is president of Markman Capital Insight.*

**FINAL THOUGHT**

✱ *"Cities have the capability of providing something for everybody, only because, and only when, they are created by everybody."* —**JANE JACOBS**

## FOLLOW-THROUGH


## WHITMAN'S WAR

When billionaire Meg Whitman, the former eBay chief and onetime California gubernatorial candidate, joined Hewlett-Packard as CEO in late 2011, she walked into a tough spot: Its stock had cratered 42% in the year prior. As *Forbes* observed on our June 10, 2013, cover, Whitman was going to war—and she expected it would take five years to secure the venerable Silicon Valley pioneer. She went in, guns blazing—most notably, in 2015, splitting the company and remaining in charge of Hewlett-Packard Enterprise, its services unit. Last month she announced she will step down in February; HPE's stock is up 30% since it began trading in the wake of the company's split. HPE president Antonio Neri will then take control. Whitman has ruled out another political run, and though briefly reported to be up for Uber's top job, she says she'll take another CEO spot only if it's a perfect fit. Her new battle plans, in other words, are pending.

FOLLOW-THROUGH BY MADELINE BERG

BlackRock's secret weapon, chief operating officer Robert Goldstein

WALL STREET

# BlackRock's Edge

How do you stay on top when your core business is a commodity and you measure profits in hundredths of a percentage point? You build the best risk-management software on Wall Street.

BY ANTOINE GARA

On a large flat-screen monitor perched in front of a framed orange-and-blue Warhol print of Teddy Roosevelt as a Rough Rider, BlackRock's chief operating officer, Rob Goldstein, is looking over the entirety of the financial firm's $6 trillion in global assets—135 teams with positions in hundreds of markets in 30 countries. He is using software that he's been perfecting for the 23 years he has spent at the company. A simple gray column on the left reveals BlackRock's activity on this quiet pre-Thanksgiving day: There are some 25,000 trade orders in the market, 77,000 trades and thousands of collateral calls. A wider view colorfully identifies the specific portfolio managers and traders initiating the moves.

The program is called Aladdin, shortened from the wonky Asset Liability and Debt and Derivative Investment Network, and it can expand and contract like an accordion, from a holistic view of firm-wide risk down to a single trade in a split second. It is the reason Goldstein, 45, is a favorite to run BlackRock one day, despite the fact that he has never placed a trade or made a market call during his tenure. His ascendance at the financial giant speaks volumes about the state of asset management today—a business dominated by the explosive growth of passive index funds all racing to the bottom on fees.

"The ability to have a dashboard for running a firm like BlackRock that's as simple as the dashboard in a car is a remarkable feat," Goldstein confidently states. "One system, one database, one set of models. I know the vast majority of people don't have this."

But what's on the screen in Goldstein's office is only a glimpse of what Aladdin can do. Rick Rieder, CIO of BlackRock's $1.7 trillion fixed-income business, uses it to track and analyze the risks embedded in his thousands of complex holdings. He loads his $31 billion Strategic Income Opportunities Fund to show how the portfolio will react to different market environments. A scenario called "Eurozone Breakup" will cost Strategic Income 79 basis points of performance relative to Rieder's targets, Aladdin calculates, displaying asset-by-asset and risk-by-risk where the impact is acute. "China Credit Crunch" would be twice as painful. Strategic Income's biggest potential risk? "Spring 2013," a repeat of the taper tantrum, when the Federal Reserve signaled it would unwind its stimulus efforts, causing bond yields to surge.

"If I buy an asset, I know exactly what it's going to do to the rest of the portfolio," Rieder says. When North Korea fired missiles over Japan this fall, he used Aladdin to check whether he was overexposed to the market and saw he would need to buy about $400 million of Treasuries to manage the risk.

"Aladdin is like oxygen. Without it we wouldn't be able to function," says Anthony Malloy, CEO of $238 billion (assets) New York Life Investors, one of hundreds of firms outside of BlackRock paying fees to use Aladdin. Daniel Pinto, CEO of JPMorgan's investment bank, adds, "It allows our clients

JAMEL TOPPIN FOR FORBES


HITACHI
Inspire the Next
THE FUTURE OF CITIES IS OPEN TO SUGGESTIONS
There are moments in life we don't want to miss. That's why Hitachi is co-creating solutions that help cities move toward what matters. With longstanding expertise in both operational and information technologies, we're making complex systems more responsive, intuitive and efficient, allowing people to travel smoothly through cities. It's one of the many ways we're using our IoT platform to analyze data, predict what comes next and deliver Social Innovation for all.
social-innovation.hitachi
Hitachi Social Innovation

to trade across asset classes, conduct sophisticated risk analytics and oversee their portfolios in a very integrated data environment."

It's no accident that a piece of software may be the single most important differentiator for BlackRock. From the firm's modest beginnings as a bond manager in 1988, CEO and cofounder Larry Fink put data analysis and risk technology at the forefront, instead of treating it as second fiddle to portfolio managers and traders.

"The roots of the organization were founded on the concept of risk management and technology," says Fink. In an era of disruption, BlackRock is reporting record operating margins, and its stock is the best performer on Wall Street, returning on average 23% per year since its IPO in 1999.

Raised in the Canarsie neighborhood of Brooklyn, Goldstein graduated from high school at 16, opting for less expensive SUNY Binghamton over offers from private colleges because his father had promised him a new car. A nerdy Grateful Deadhead, he joined relatively small BlackRock in 1994 at age 20. His small team valued mortgages, producing computer-crunched internal risk reports, called "green packages" for the paper they were printed on. He hoped his back-office job would be a springboard to a more glamorous and lucrative post as a bond salesman.

Instead he became more entrenched in the unit as BlackRock turned its risk technology outward, using it to help General Electric liquidate the mortgage portfolio of Kidder Peabody. Then in 1998 a 25-year-old Goldstein led BlackRock's effort to license its analytic firepower to Freddie Mac, which used it to value over $500 billion in mortgages. By 2000, demand was so great a business unit was formed around the software called BlackRock Solutions. Goldstein was a key leader.

Every time BlackRock gobbled up new assets, Aladdin was refined. Monitoring stocks and European markets were added when the firm bought Merrill Lynch Investment Managers in 2006. Later it gained expertise in ETFs with BlackRock's opportunistic purchase of Barclays Global Investors in 2009 for $13.5 billion. Another break came during the financial crisis, when understanding exposures to failing firms and assessing potential losses became paramount. In 2008 Aladdin was used by the Fed when it took on the assets of Bear Stearns, and then by the Treasury to rescue the financial system. During the European debt crisis Aladdin was hired by the central banks of Ireland, Greece and the ECB.

Today Aladdin counts some 200 financial firms as clients, with 25,000 users, monitoring some $18 trillion in assets on the platform. It carries out a quarter-million trades daily and billions of forecasts weekly. Roughly a quarter of BlackRock's 13,000 staff are devoted to technology, with close to half focused on Aladdin. BlackRock Solutions is on track to generate $700 million of the firm's $12 billion in revenues this year, up 15%.

Aladdin is pushing into retail, where BlackRock believes rigorous quantification of risk and scenario forecasts can help financial advisors and individuals build better financial plans. BlackRock has already made numerous bolt-on investments: FutureAdvisor, Scalable Capital, iRetire and iCapital. Five wealth-management firms, including UBS, are now using Aladdin. If the FAs like the technology, they may also buy BlackRock products.

Besides being career changing, Goldstein's software is a big reason why analysts and hedge funds like Dan Loeb's Third Point gush over BlackRock.

"We see BlackRock as far more than an asset manager dependent on market movements," says a Third Point investor letter. Some, like Macrae Sykes, an analyst with Gabelli & Co., are even comparing the behemoth asset manager to Amazon. "Am-Rock reminds me of the qualities of Amazon," Sykes says, "driving efficiencies for clients, generating strong growth and pursuing a relentless approach to competitive positioning." ✱

**HOW TO PLAY IT** BY WILLIAM BALDWIN

As profits in portfolio management shrivel, BlackRock will rely more heavily on the less commoditized business of risk management. You can follow its lead by investing in companies that assess and address commercial hazards. **Fico** calculates the risk that a credit card user is a scammer or deadbeat. **Moody's** determines the probability that Chicago will default on its bonds. **Verisk Analytics** can put odds on all sorts of misfortune, from terrorism to roof cave-ins. **Exponent** is a science-heavy company that does "failure analysis": figuring out, before it happens, how a structure or machine might rust, bust, corrode or explode.

*William Baldwin is the Investment Strategies columnist for* Forbes.

**TEST DRIVE**

## WHERE TO, HUMAN?

General Motors says its autonomous vehicles are improving so quickly that it plans to launch a driverless-taxi service in 2019. San Francisco, where GM has been testing 180 self-driving Chevrolet Bolt electric cars, looks like the first market; New York will likely follow.

On a slow, cautious ride through San Francisco's Potrero Hill neighborhood, Forbes found that our driverless car, "Alex," had trouble reading the body language of a guy with a surfboard under each arm trying to cross the street. When a construction worker appeared from between two trucks, Alex swerved and slammed on the brakes—a reaction indicative of its programmed abundance of caution.

GM is bullish on autonomous ride-sharing. At $2.50 a mile in San Francisco, for example, services like Uber and Lyft are unprofitable because most of the money goes to drivers. Remove them and the cost per mile falls below $1, which GM predicts will cause demand to soar. Its plan is to scale quickly by mass-producing driverless taxis at a factory near Detroit. The question: Are perambulating surfers—and the rest of the world—ready?

TEST DRIVE BY JOANN MULLER

**FINAL THOUGHT**

✱ *"Like all magnificent things, it's very simple."* —**NATALIE BABBITT**

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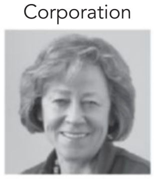

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THE JUST 100

# COMPETITION IS THE NEW UNION

**American corporations have spent decades slashing jobs, cutting benefits and putting shareholders before employees. But guess what: The Just 100 companies that pay and treat their workers well outperform those that don't. With unemployment near 4%, the pendulum is swinging back to the workers. This time, it should pay off for investors, too.**

BY MAGGIE MCGRATH, WITH LAUREN GENSLER AND SAMANTHA SHARF

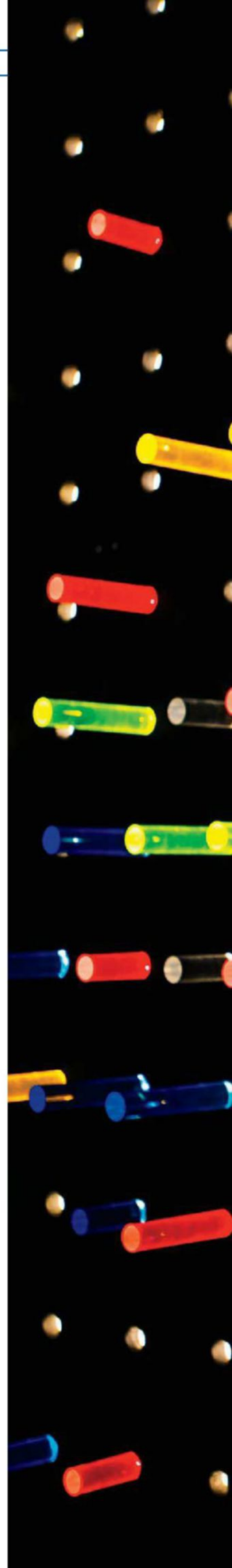
Almost two years ago, Intel CEO Brian Krzanich made the kind of headlines no company wants: In the process of restructuring the storied chipmaker, he was eliminating 11% of its workforce—12,000 jobs. But far more quietly, Krzanich was focusing on something seemingly contradictory: cranking up a program to prevent the workers the company wanted to keep from walking out the door.

The retention initiative was launched as part of a diversity push. In 2015, Krzanich had pledged some $60 million a year to boost underrepresented groups at Intel, yet in that year the company treaded water: 584 African-Americans, Hispanics and Native Americans were hired, and 580 from those groups departed. Ed Zabasajja, a Ugandan-born, Auburn University-trained engineer who oversees internal diversity analytics, was keen to acquire data to figure out why employees left—before they did.

Thus was born WarmLine, whose touchy-feely name hasn't prevented more than 10,000 workers from reaching out. More than just a data-collection operation, WarmLine quickly developed into a way to address problems such as finding colleagues for isolated workers to bond with, mediating management disputes, arranging transfers and even asking for raises. And it also became an outlet for the entire company—roughly half of WarmLine's users have been white and Asian men.

"There's a limited number of people who can do many of these technologies," Krzanich says. His product, ultimately, relies on talent.

Zillow, the online real estate marketplace, has gone even further to keep its key employees. CEO Spencer Rascoff sees recruitment and retention as the company's leading priority and has a new "internal mobility" team focused on top performers. After one star recently decided during a six-week


TIM PANNELL FOR FORBES

After worker feedback, Zillow's Spencer Rascoff has increased sabbaticals and bereavement leave.

paid sabbatical (yep, Zillow grants one every six years) that he needed to leave and pursue a big change, Zillow kept in touch. Within two months, the defector was back in a new role. "It's much more economical to just keep people motivated and engaged over a long period of time rather than churning and burning people," Rascoff says.

Conventional wisdom holds that employees have less power than they've had in decades, with a growing share of jobs vulnerable to automation or offshoring and just 6.4% of U.S. private-sector workers in unions. Exhibit A is the recovery from the Great Recession: As corporate profits set new records, median wages barely budged until last year. That anxiety is reflected in the Just 100, the first-ever ranking of companies based on what Americans expect of a good corporate citizen. Some 80% of the 72,000 Americans surveyed over the past three years by Just Capital say companies aren't sharing enough of their success with employees. Asked to cite what a company's top priority should be, 33% said workers or jobs, compared with just 6% who said shareholders or management.


Intel CEO Brian Krzanich: "I've never been asked [by analysts], 'How do you treat employees?'"

But a free labor market can cut both ways. With unemployment now scraping 4%, and traditional rewards of long tenure (pensions and protection from layoffs) just a memory, employees have little reason to be loyal. The "quit rate" for 2017 is on track to be the highest in over a decade, with 26% of workers voluntarily waving goodbye. So companies that fare well on the Just 100 list are attempting to rebuild workers' loyalty, 21st-century-style: not with no-layoff guarantees but with fair pay, bonuses, stock options, new benefits (think paid family leave, sabbaticals and student-loan repayments) and programs designed to fulfill Millennial demands for work-life balance, inclusive workplaces and professional growth. Competition is the new union. "Transparency combined with a tight labor market is effectively working as an advocate for employee betterment," says Andrew Chamberlain, the chief economist at Glassdoor.

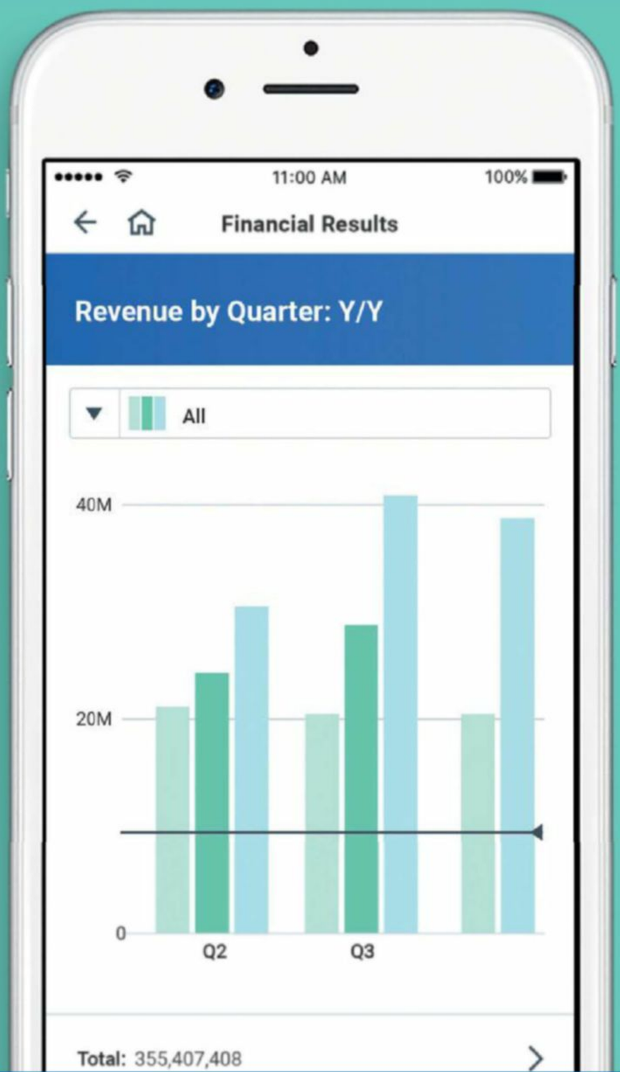
No, we're not trying to sugarcoat reality. The new benefits are far more likely to be lavished on in-demand, highly skilled workers, and there are still too many terrible jobs and employers in America. But there's an aspect to this phenomenon that might surprise some less enlightened CEOs and investors: Treating workers right ultimately benefits shareholders after all, and not only in tight labor markets. The companies of the Just 100 have returned three percentage points a year more than the S&P 500 over the last five years. (For a full explanation of the Just 100's methodology, see page 64.)

So does great performance allow companies to treat workers better, or does worker treatment drive great performance? While there's some measure of both at work, the latter seems to be the main dynamic. In 2012, Alex Edmans, a finance professor at Penn's Wharton School who is now at the London Business School, analyzed 27 years of stock market returns for U.S. companies chosen as top places to work. They outperformed the market by 2.3 to 3.8 points per year for the entire stretch, no matter the broader economic conditions. More recently, he studied the relationship between employee satisfaction and stock returns across 14 countries. In rigid labor markets, such as Germany's, where regulations or union contracts provide a floor of benefits and limit management flexibility, spending extra on workers provides little in the way of return. But in flexible labor markets, such as in the U.S. and the U.K., treating workers better consistently produced higher returns.

The Just 100 get that, even if Wall Street doesn't. Stock analysts "look at things like layoffs and they look at the cost. They don't think about the employees' long-term morale," says Krzanich, of Intel, which claimed the No. 1 spot this year on the Just 100. "I've never been asked, 'How do you treat employees?'" Mark Costa, the CEO of Eastman Chemical, which ranks seventh on our list in terms of employee treatment, concurs: "Investors just want more dollars. I

ETHAN PINES FOR FORBES
BRIAN KRZANICH WEARS A WOOL, CASHMERE AND SILK SPORT JACKET ($5,200), WOOL TROUSERS WITH CROCODILE TRIM ($1,300), COTTON SHIRT ($850), AND CROCODILE BELT ($2,800) BY STEFANO RICCI.

# Planning, transactions, and reporting in the same system? That's music to my ears.

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don't think they spend a lot of time thinking about the consequences to the worker." Ironically, if they did, more dollars would often follow.

THE IDEA OF TREATING WORKERS well isn't new—just erratic. In 1875, American Express became the first private employer to provide a retirement plan. By the early 1900s, when employee turnover often exceeded 100% a year, visionary businessmen were experimenting with new ways to attract and keep workers. Henry Ford introduced $5-a-day pay; Milton Hershey and George Pullman built towns and housing for their workers; a company called Norton Grinding pioneered paid vacations. The Great Depression halted, at least temporarily, this brand of welfare-minded capitalism.

But then the government and unions stepped in. The National Labor Relations Act of 1935 guaranteed workers the right to organize and strike, and labor-union growth continued for the next three decades. Private pensions continued to grow during this time too—thanks in large part to the new labor unions. The unions' decline began in the 1960s, when the Supreme Court issued a string of pro-employer rulings, holding, for example, that companies weren't obligated to bargain over decisions "at the core of entrepreneurial control." Reforms to the National Labor Relations Board under the Nixon Administration and anti-union Supreme Court decisions and executive actions during the Reagan years further weakened the union movement. In 1983, 16.8% of all private-sector workers were in a union, two and a half times the rate of today.

Wall Street also played a role during this period. The Reagan era coincided with the Milken era, when leveraged buyouts were built around finding efficiencies, even if that meant treating company assets like Tinker Toys and workers as costs rather than assets. *Barbarians at the Gate* was a bestseller, the Predators' Ball was the marquee event and the iconic 1987 movie *Wall Street* depicted workers as pawns of Armani-clad paper pushers. At the same time, companies began shifting from "defined benefit" retirement plans—a lifetime pension, with benefits backloaded to reward longer-tenured workers—to cheaper "defined contribution" plans. While this brought some sanity to corporate balance sheets, it also liberated workers to walk out the door with their retirement stash and roll it into an IRA or a new employer's plan.

Those at the top of the Just 100 list figured out years ago that if every worker is now a free agent, a competitive advantage lies in bringing in and retaining the top talent.

Take Delta, which ranks 60th on the list. After coming out of bankruptcy in 2007, the airline started giving a portion, now at least 10%, of its annual profits back to its workers. "We made a commitment to people that when things turned around and got better, they would see the first rewards from those initiatives," says Delta CEO Ed Bastian. Plus, it gave every worker—including customer-service agents, who have to explain flight delays to cranky passengers—skin in the game. In the past five years, Delta has returned nearly $5 billion to employees—and 170% to its shareholders over the past decade, double the S&P 500. Not coincidentally, it's also the least unionized workforce of any legacy airline.


**The original example of welfare capitalism, Hershey and its CEO, Michele Buck, are upping their game to compete for talent.**

JAMEL TOPPIN FOR FORBES

IF YOU WANT TO SEE HOW to treat a worker in 2018, start at the top. That would be Nvidia, the No. 1 Just 100 company in worker treatment. It competes with Apple, Google, Facebook and the rest of Silicon Valley's giants for the best minds in technology. That means it pays well. But fair and competitive pay—the largest single driver of the Just 100—is taken almost as a given at top companies. Those motivated only by salary tend not to stay, no matter what. So to get stars, Nvidia treats them as stars, with universal employee perks that no union negotiaton has ever extracted. New mothers get 22 weeks of fully paid leave. Workers get $6,000 of their students loans paid off every year, up to $30,000. Recently, Nvidia started offering to pay for in vitro fertilization, adoption and, soon, egg freezing.

As a result, Nvidia says, its quit rate sits at 5%, roughly half that of its peers. It was the best-performing stock in the S&P 500 in 2016, giving its investors a 224% return. In 2017, through early December, it was up another 75%—four times the S&P's gains.

Another key employee perk: training. Accenture, No. 6 on the Just 100, announced a $1.4 billion, four-year push to bolster current employees as the consultancy shifts to cloud and security services. In this labor market, and with technology changing so fast, simply hiring new experts with cutting-edge skills isn't a viable approach for employers. And continual growth engages the kinds of employees worth keeping and promoting.

Companies looking to attract and keep younger workers, meanwhile (read: everyone), understand that Millennials are looking for a better work-life balance than their parents had. At Zillow (No. 51), the 42-year-old Rascoff leads by example: When he's not traveling, he aims to get home by 5:30 and turns off his phone until 8:30 to spend time with his three kids, ages 6, 9 and 12.

Note that this explosion of family benefits has gone beyond the young tech companies. In 2016, Johnson & Johnson (No. 35) increased fertility benefits from $25,000 to $35,000 and began reimbursing workers up to $20,000 for payments to surrogate mothers. "We're also competing for talent as we bring in people from tech and other industries," says Peter Fasolo, J&J's chief human resources officer.

Yet another new trend embraced by the old, established members of the Just 100: flexible benefits. At Procter & Gamble (No. 15), with 95,000 workers worldwide, every employee gets the equivalent of 1% to 2% of their salary set aside for a benefit of their choice, anything from disability insurance to financial planning to extra vacation time. Similarly, last year 123-year-old Hershey (No. 50) introduced a suite of "SmartFlex" policies for its white-collar workforce. Those include a number of leave options for new parents (they can take their time in one chunk or intermittently, as needed) and expanded opportunities to work from home or work flexible hours. And this attitude transcends what can be standardized or put into an employee manual. After Hurricane Maria hit Puerto Rico in Septem-

**WORKER TREATMENT**

### 1. Nvidia

"If you're going to do your life's best work here, the company has an obligation to provide the best benefits," says Beau Davidson, VP of human resources. Details: Nvidia will repay up to $30,000 of student loans, and new moms get 22 weeks of paid leave; employees also get reimbursement for in vitro fertilization and adoption expenses. Even better: Workers can commit up to 10% of their salary to purchasing Nvidia's red-hot stock at a 15% discount.

**COMMUNITIES**

### 1. Intel

To encourage its 106,000 global employees to volunteer, the chipmaker donates $10 for every hour (after 20 hours) spent at a nonprofit, including schools. Last year, 38% of employees contributed more than one million hours of time. Intel has also connected over 1,000 retiring employees with nonprofits like Habitat for Humanity and the Boys & Girls Clubs of America for a meaningful second act.

# THE JUST 100

For our first-ever ranking of America's top corporate citizens, Just Capital surveyed 72,000 Americans to measure what they expect from businesses. Then we ranked 877 of the largest public companies against those expectations, using seven weighted metrics, such as worker treatment and environmental impact.

| | | Workers | Communities | Products | Customers | Management | Environment | Jobs |
|---|---|---|---|---|---|---|---|---|
| 1 | Intel * | 10 | 1 | 12 | 530 | 247 | 2 | 204 |
| 2 | Texas Instruments | 14 | 5 | 1 | 98 | 127 | 6 | 664 |
| 3 | Nvidia | 1 | 10 | 93 | 530 | 122 | 18 | 202 |
| 4 | Microsoft * | 2 | 2 | 782 | 509 | 1 | 10 | 110 |
| 5 | IBM * | 62 | 29 | 36 | 70 | 337 | 4 | 49 |
| 6 | Accenture * | 15 | 65 | 97 | 28 | 331 | 1 | 208 |
| 7 | Cisco Systems * | 11 | 22 | 1 | 367 | 114 | 104 | 269 |
| 8 | Alphabet * | 8 | 112 | 57 | 39 | 609 | 80 | 61 |
| 9 | Salesforce | 4 | 109 | 36 | 9 | 624 | 179 | 284 |
| 10 | Symantec | 27 | 44 | 36 | 514 | 252 | 36 | 708 |
| 11 | Adobe Systems | 5 | 72 | 773 | 70 | 681 | 13 | 245 |
| 12 | AT&T * | 106 | 224 | 1 | 684 | 270 | 49 | 34 |
| 13 | Rockwell Automation * | 152 | 36 | 97 | 98 | 172 | 7 | 523 |
| 14 | Nike * | 44 | 63 | 36 | 502 | 642 | 96 | 103 |
| 15 | Procter & Gamble * | 9 | 256 | 97 | 648 | 137 | 50 | 172 |
| 16 | Colgate-Palmolive | 18 | 78 | 58 | 648 | 101 | 88 | 478 |
| 17 | Humana * | 41 | 91 | 145 | 665 | 33 | 42 | 89 |
| 18 | Applied Materials | 225 | 92 | 1 | 98 | 120 | 34 | 737 |
| 19 | PepsiCo * | 135 | 15 | 362 | 94 | 11 | 84 | 73 |
| 20 | NetApp | 87 | 190 | 1 | 98 | 190 | 70 | 738 |
| 21 | Fluor * | 58 | 32 | 97 | 530 | 17 | 114 | 335 |
| 22 | Jones Lang LaSalle * | 51 | 132 | 13 | 367 | 48 | 200 | 247 |
| 23 | Micron Technology | 75 | 52 | 13 | 367 | 467 | 137 | 660 |
| 24 | Edwards Lifesciences * | 115 | 62 | 97 | 98 | 26 | 54 | 469 |
| 25 | PVH Corp | 296 | 20 | 36 | 367 | 535 | 21 | 414 |
| 26 | VMware | 6 | 279 | 226 | 9 | 770 | 129 | 163 |
| 27 | CBRE Group | 85 | 110 | 13 | 367 | 379 | 126 | 206 |
| 28 | Eli Lilly * | 30 | 69 | 91 | 688 | 519 | 60 | 356 |
| 29 | Biogen | 50 | 115 | 97 | 367 | 155 | 82 | 563 |
| 30 | Teradata | 100 | 58 | 145 | 1 | 86 | 196 | 790 |
| 31 | Praxair * | 140 | 75 | 1 | 367 | 171 | 283 | 583 |
| 32 | Bristol-Myers Squibb | 34 | 34 | 359 | 688 | 367 | 43 | 391 |
| 33 | Eastman Chemical | 7 | 51 | 97 | 530 | 161 | 782 | 650 |
| 34 | Apple | 67 | 61 | 767 | 859 | 19 | 17 | 63 |
| 35 | Johnson & Johnson | 26 | 49 | 219 | 858 | 421 | 23 | 211 |
| 36 | Clorox | 55 | 80 | 141 | 36 | 70 | 212 | 551 |
| 37 | Square | 25 | 706 | 369 | 41 | 614 | 514 | 2 |
| 38 | Caterpillar | 222 | 82 | 32 | 530 | 276 | 24 | 434 |
| 39 | Akamai Technologies | 33 | 255 | 145 | 9 | 414 | 190 | 132 |
| 40 | Arconic * | 195 | 123 | 1 | 98 | 32 | 262 | 338 |
| 41 | Garmin | 143 | 129 | 1 | 367 | 851 | 79 | 304 |

* INDUSTRY LEADER

| | | WORKERS | COMMUNITIES | PRODUCTS | CUSTOMERS | MANAGEMENT | ENVIRONMENT | JOBS |
|---|---|---|---|---|---|---|---|---|
| 42 | Analog Devices | 130 | 161 | 13 | 98 | 373 | 87 | 754 |
| 43 | State Street | 360 | 27 | 13 | 530 | 716 | 35 | 331 |
| 44 | Celgene | 112 | 142 | 13 | 530 | 508 | 98 | 228 |
| 45 | Cummins | 120 | 167 | 139 | 367 | 312 | 20 | 333 |
| 46 | Chevron | 28 | 37 | 145 | 367 | 132 | 764 | 488 |
| 47 | Kimberly-Clark | 12 | 163 | 125 | 688 | 81 | 136 | 548 |
| 48 | Workday | 42 | 231 | 58 | 6 | 795 | 222 | 374 |
| 49 | Freeport-McMoRan | 47 | 9 | 369 | 98 | 594 | 257 | 581 |
| 50 | Hershey | 38 | 101 | 94 | 36 | 634 | 638 | 363 |
| 51 | Zillow Group | 13 | 710 | 369 | 9 | 762 | 496 | 32 |
| 52 | 3M | 98 | 25 | 204 | 688 | 97 | 93 | 264 |
| 53 | Agilent Technologies | 72 | 120 | 369 | 98 | 658 | 15 | 614 |
| 54 | Xerox | 725 | 24 | 36 | 62 | 529 | 8 | 375 |
| 55 | Amazon | 192 | 263 | 366 | 648 | 772 | 405 | 1 |
| 56 | Merck | 65 | 7 | 225 | 799 | 228 | 111 | 565 |
| 57 | Autodesk | 24 | 282 | 226 | 1 | 810 | 151 | 393 |
| 58 | Juniper Networks | 88 | 48 | 58 | 530 | 224 | 185 | 724 |
| 59 | KLA-Tencor | 280 | 122 | 13 | 98 | 210 | 69 | 771 |
| 60 | Delta Air Lines | 60 | 30 | 768 | 639 | 24 | 293 | 105 |
| 61 | General Mills | 40 | 18 | 779 | 642 | 116 | 119 | 712 |
| 62 | Leidos Holdings | 196 | 286 | 226 | 1 | 240 | 25 | 588 |
| 63 | Keysight Technologies | 175 | 100 | 145 | 98 | 291 | 27 | 644 |
| 64 | Verizon | 118 | 261 | 1 | 840 | 235 | 149 | 60 |
| 65 | Goldman Sachs | 17 | 289 | 202 | 688 | 845 | 11 | 376 |
| 66 | United Parcel Service | 573 | 126 | 127 | 68 | 406 | 66 | 26 |
| 67 | Motorola Solutions | 155 | 876 | 1 | 367 | 475 | 12 | 833 |
| 68 | Rockwell Collins | 66 | 124 | 369 | 98 | 327 | 73 | 459 |
| 69 | Illinois Tool Works | 320 | 79 | 97 | 98 | 139 | 61 | 380 |
| 70 | General Motors | 22 | 6 | 867 | 799 | 565 | 14 | 67 |
| 71 | Facebook | 3 | 287 | 58 | 874 | 719 | 346 | 17 |
| 72 | CA Inc. | 73 | 589 | 13 | 28 | 660 | 145 | 842 |
| 73 | Legg Mason | 169 | 172 | 13 | 367 | 306 | 174 | 584 |
| 74 | Coca-Cola | 108 | 81 | 35 | 529 | 66 | 770 | 220 |
| 75 | Hasbro | 83 | 11 | 97 | 367 | 297 | 792 | 847 |
| 76 | ResMed | 125 | 188 | 226 | 367 | 144 | 46 | 515 |
| 77 | F5 Networks | 31 | 215 | 369 | 98 | 170 | 124 | 761 |
| 78 | Oracle | 420 | 162 | 36 | 32 | 605 | 81 | 168 |
| 79 | Qualcomm | 77 | 4 | 202 | 799 | 742 | 194 | 299 |
| 80 | Citrix Systems | 188 | 170 | 58 | 1 | 717 | 326 | 370 |
| 81 | Xylem | 430 | 64 | 36 | 721 | 14 | 19 | 676 |
| 82 | Southwest Airlines | 53 | 458 | 58 | 507 | 54 | 620 | 144 |
| 83 | Prudential Financial | 168 | 148 | 13 | 625 | 383 | 170 | 381 |
| 84 | Estée Lauder | 303 | 185 | 201 | 367 | 675 | 3 | 427 |
| 85 | VF Corp. | 310 | 8 | 226 | 78 | 285 | 337 | 158 |
| 86 | Intuit | 29 | 103 | 786 | 490 | 492 | 108 | 496 |
| 87 | Ecolab | 440 | 17 | 97 | 98 | 300 | 132 | 326 |
| 88 | Campbell Soup | 357 | 23 | 368 | 78 | 15 | 131 | 438 |
| 89 | Advanced Micro Devices | 107 | 89 | 369 | 367 | 801 | 26 | 757 |
| 90 | Western Digital | 380 | 128 | 13 | 98 | 360 | 127 | 417 |

ber, Hershey spent $9,000 just to bring a new hire from there to New York and get her set up in an apartment.

How much has the world changed? Private equity firm KKR, Wall Street's original "barbarians," is adding goodies for the rank and file to its buyout formula. Since 2011, KKR has distributed more than $200 million in equity grants across four industrial deals to 10,000 blue-collar workers. "Companies can achieve incredible results when all employees are given the opportunity to think, act and participate as owners in the business," says Pete Stavros, the leader of KKR's industrials group. When KKR took industrial equipment maker Gardner Denver public in May, it gave 6,000 employees $100 million of stock grants—equal to 40% of a year's pay for each. The company's stock has urged 50% since the IPO, so each worker now holds stock worth 60% of his or her salary.

**PRODUCTS**

## 1. Texas Instruments

Calculators. Televisions. Electric toothbrushes. Refrigerators. This pioneering semiconductor company, founded in 1930, is developing smart technology to allow consumers to charge their devices faster, power their homes for less and receive assistance while driving. To fuel innovation, the Dallas company plows 10% of revenue into research and development. Patent count: 44,000.

**JOBS**

## 1. Amazon

There's a reason cities and towns across America are clamoring for Amazon's second headquarters: jobs. The e-commerce juggernaut increased its U.S. head count sixfold to 180,000 between 2011 and 2016. It has pledged to hire another 100,000 full-time workers by mid-2018. Many of its jobs are at fulfillment centers (where workers sometimes coexist alongside robots), but the company is also adding positions in technology, logistics and customer service.

**ENVIRONMENT**

## 1. Accenture

The consulting company is a powerful, invisible force in eco-friendly business practices, pushing clients, partners and suppliers to leverage tech to improve sustainability. It doesn't just talk the talk: Accenture has reduced its own carbon footprint 47% since 2006 by making its offices more energy-efficient and reining in air travel in favor of virtual meetings. In fiscal 2016, it recycled 99% of its old computers (some 76,000), keeping them out of landfills.

IF COMPETITION now delivers what unions once did, it has also replaced government policy, or filled in where it's lacking. The federal minimum wage hasn't been increased since 2009, and at its current $7.25 an hour, it offers a path to poverty, with few avenues for advancement—a combination that explains why so many retail companies perform atrociously in the Just 100 rankings. That's what made Target's announcement in September interesting: The retailer said it was immediately boosting its starting pay for all workers, including seasonal ones, to $11 an hour, and aiming to hit $15—the number favored

| | | WORKERS | COMMUNITIES | PRODUCTS | CUSTOMERS | MANAGEMENT | ENVIRONMENT | JOBS |
|---|---|---|---|---|---|---|---|---|
| 91 | First Solar | 264 | 198 | 145 | 367 | 711 | 9 | 750 |
| 92 | Baxter International | 113 | 46 | 797 | 688 | 145 | 22 | 266 |
| 93 | Nielsen Holdings | 230 | 14 | 369 | 367 | 696 | 95 | 505 |
| 94 | Hewlett-Packard | 679 | 12 | 58 | 367 | 249 | 76 | 271 |
| 95 | National Instruments | 96 | 168 | 58 | 98 | 341 | 402 | 658 |
| 96 | Molson Coors Brewing | 86 | 77 | 145 | 686 | 737 | 58 | 785 |
| 97 | Ingersoll-Rand | 180 | 207 | 223 | 98 | 384 | 56 | 395 |
| 98 | Air Products & Chemicals | 94 | 35 | 13 | 98 | 295 | 830 | 793 |
| 99 | Ultimate Software Group | 49 | 447 | 226 | 41 | 802 | 480 | 52 |
| 100 | AbbVie | 174 | 87 | 34 | 688 | 110 | 226 | 613 |

*Forbes* has partnered with Just Capital to rigorously evaluate 877 of the largest publicly traded companies in the U.S. (the Russell 1000 minus companies for which complete data aren't available, like REITs, and businesses that have merged, like Whole Foods). Data are pulled from publicly available sources, third-party vendors and crowdsourced repositories and then scoured by a team of statisticians and data scientists. The ranking is then weighted based on what Americans say are the seven most important aspects of business behavior: worker treatment (23% weighting), customer treatment (19% ), quality of products (17%), environmental impact (13%), community support in the U.S. and human rights elsewhere (11%), the number of jobs available in the U.S. (10%) and shareholder treatment (6%).

## THE BOTTOM OF THE BARREL

**Out of the 877 companies analyzed, these were the bottom 10%. Here in alphabetical order are the companies that could stand to learn a thing or two from the folks at the top.**

Akorn
Alliant Energy
AMERCO
American National Insurance
American Water Works
Aqua America
Athene Holding
Bank of the Ozarks
Bed Bath & Beyond
BGC Partners
Blue Buffalo Pet Products
Brookdale Senior Living
Bruker
Brunswick Corp.
Burlington Stores
Calpine
Chemours Co.
Chipotle Mexican Grill
Consol Energy
CoreCivic
Dick's Sporting Goods
Dish Network
Dollar General
Dollar Tree
Domino's Pizza
Duke Energy
Dunkin' Brands
Eagle Materials
EchoStar
Endo International
Envision Healthcare
Extended Stay America
FirstEnergy
Floor & Decor Holdings
Flowers Foods
Foot Locker
GameStop
Gaming and Leisure Properties
Gardner Denver Holdings
Great Plains Energy
Hawaiian Electric Industries
Herbalife
Kraft Heinz
Lamb Weston Holdings
Leggett & Platt
Leucadia National
Liberty Interactive QVC Group
M&T Bank
McDonald's
Mercury General
Michael Kors
Michaels Cos.
Middleby
Monster Beverage
Mylan
Nabors Industries
News Corp.
NRG Energy
OPKO Health
Pilgrim's Pride
Pinnacle Foods
Polaris Industries
Rite Aid
Ross Stores
RPC
Sally Beauty Holdings
Seaboard Corp.
Service Corp. International
ServiceMaster
Signet Jewelers
Six Flags Entertainment
Skechers USA
Spectrum Brands Holdings
Stericycle
Steris
Transocean
UGI Corp.
United States Steel
Urban Outfitters
Valmont Industries
Vistra Energy
Weatherford International
WEC Energy Group
Wendy's
Westar Energy
Williams-Sonoma
WR Grace
Yum! Brands

by "living wage" activists—by 2020. The announcement blathered on about paying workers fairly. A better reason: No one really needs to shop in a store right now. To avoid a race to the bottom, Target is making a bet, one pioneered by Costco, that its long-term fate is better aligned with superior consumer experience and a brand that people feel good about, rather than just lower prices or bigger dividends. "People expect it now," says Hershey CEO Michele Buck. Consumers, especially younger ones, "want to know, 'I'm buying a product from someone who cares about sourcing and who cares about the people who were involved in the product along the chain of production.'"

Of course, treating workers well sounds better as a profit strategy near full employment. What happens during the next downturn? Many companies will surely revert to their old habits—and pay the price that comes with short-term savings. "People will see through that company, and it's not seen as genuine," says Edmans, the finance professor. "The reason why you invest in your workers is because the business you want to build is one in which you believe workers should be treated fairly, not in response to market conditions."

As the Just 100 reflects, the American public seems primed to reward those who act well. And the markets will follow. Eastman Chemical offers a case study from the financial crisis. Rather than major layoffs, management took an employee suggestion and cut wages 5% across the board. "In a difficult recessionary environment, everyone was aggressively cutting costs. We took a pay cut, from the board to frontline employees, and kept investing in innovation," says CEO Costa. Full salaries were soon reinstated, and Eastman's stock roared higher, returning three times as much as the S&P 500 since the market bottomed in 2009.

"Companies that don't invest in talent management will be left behind," predicts Zillow's Rascoff. "This is not just HR gobbledygook, this is mission-critical work." A mission that defines America's new labor reality.

**MANAGEMENT & SHAREHOLDERS**

### 1. Microsoft

Since Satya Nadella took over in 2014, Microsoft's stock has awakened from a decade-long slumber, more than doubling. The company is innovating again, with its cloud business going gangbusters and a promising $26.2 billion acquisition of LinkedIn. "We used to talk about know-it-alls at Microsoft. Now we talk about learn-it-alls," says Kristen Dimlow, corporate VP of human resources.

**CUSTOMERS**

### 1. Teradata

When you're in the data storage and analytics business, nothing is more important than keeping your customers' information secure. So far Teradata, whose customers include eBay and Hertz, has an unblemished record. Its support lines are open 24/7, 365 days a year, and Teradata specialists are available on-site within two hours. "We still have a startup mentality that every customer is the most important customer," says Imad Birouty, director of product marketing.

# THE LAST COAL TYCOON

Dark days ahead for coal? Don't tell that to billionaire Chris Cline, who's convinced the dirtiest fuel still has a bright future and is building what he believes will be the last mine standing.

BY CHRISTOPHER HELMAN

The masseuse felt the broken bones and the scars and asked Chris Cline what he did for a living. Cline said he was in the energy business. What kind of energy?, she wondered. Maybe solar panels or windmills? No, not that, he said. You're not a *fracker*, are you? No, not that either. Then what? "I own coal mines," said Cline. Without a word she stopped working on him and left the room. He waited a while, but she didn't return. Cline won't name the resort ("I might want to go back there"). And the scars? From his years underground in Appalachian mines, where the coal seams have been worked so thin it's like "crawling under a table all day." Cuts on his back from a mine's ceiling "felt like insect bites."

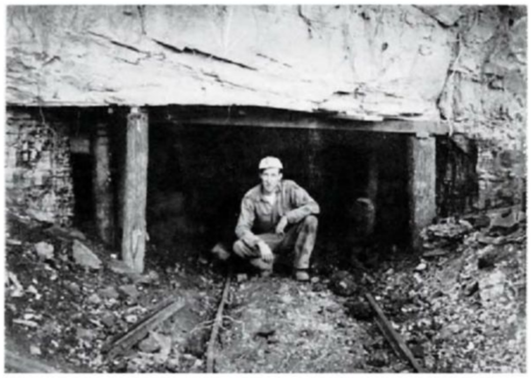
Cline, 59, is one of the most archaic and unpopular specimens of capitalist: the coal tycoon. He doesn't mind people not liking him. He knows that coal fuels 40% of the world's power needs. "People deserve the cheapest energy they can get," he says. "Tell the poor in India and China that they don't deserve to have reliable, affordable electricity."

PHOTOGRAPHED BY JAMEL TOPPIN; GROOMING: SUZANA HALLILI USING ZIRH & SISLEY, PARIS

**MAJOR MINER:** Chris Cline stands outside his newly opened Donkin mine on Cape Breton Island in Nova Scotia.

Coal is far from dead. Global demand *has* dipped because of America's shale-gas boom and tighter regulations in China, yet it remains 50% above its level in 2000, at 7.2 billion tons per year, according to the International Energy Agency. Even factoring in a carbon tax of $30 per ton, coal can compete on price with natural gas and renewables. And Chris Cline, relying on operating efficiencies that he has honed over nearly 40 years of running his own mines, intends to be the last man standing in the industry, supplying low-cost coal from Canada to energy-hungry consumers around the world.

Underground roots: Cline's father in Appalachia.



Cline thinks the carbon crusade is folly: "I'm all for getting sulfur and mercury and nitrogen oxide out of the air—that's common sense," but ultimately, he posits, "global cooling" will be a bigger threat. "I believe in our children's lifetimes that they'll wish they had paid us per ton to put more $CO_2$ in the air." (It's easy to forget that, as recently as the 1970s, fear of a coming ice age was part of the mainstream climate conversation.) Which is why he has no qualms about having built his $2 billion fortune with a series of all-in bets that have taken him from Appalachia to Illinois and now to Canada. He created one of America's biggest publicly traded coal miners, Foresight Energy, and two years ago sold most of his interest for nearly $1.4 billion. He's since sunk $150 million into a new mine in Nova Scotia that may produce 500 million tons of high-dollar metallurgical coal by midcentury. And he has permits to develop 1.7 billion tons more at the Vista mine in western Canada.

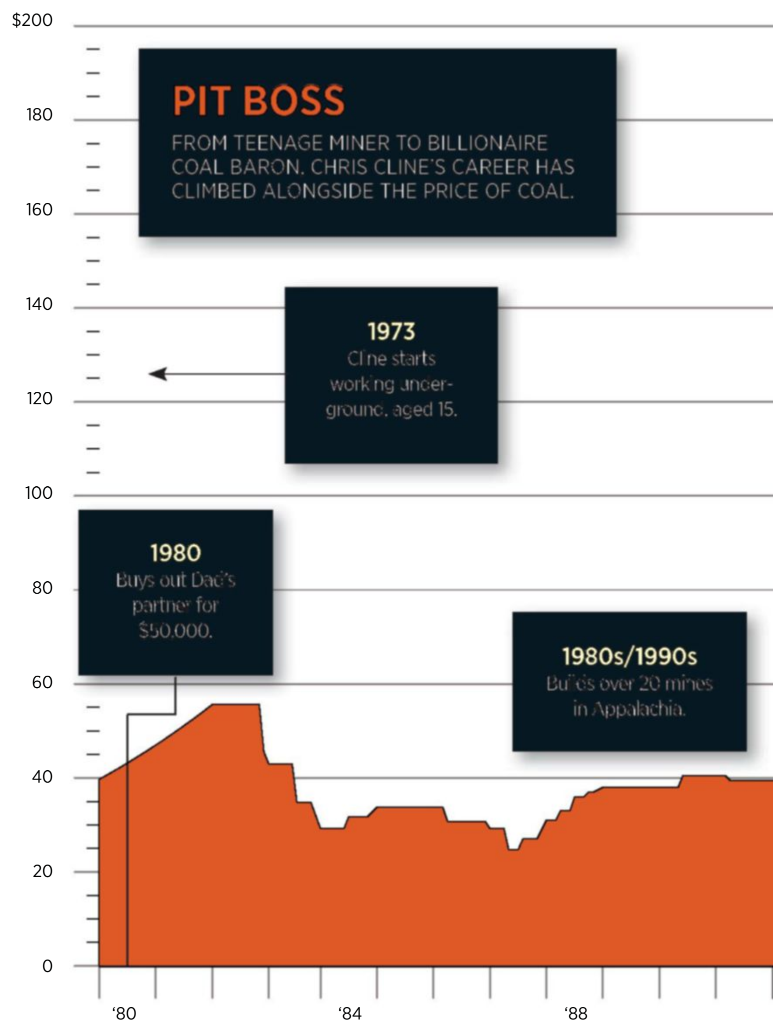
"If you had any idea where I started," Cline says wistfully. Trim, powerfully built, 5-foot-11, he speaks in a quiet growl from the back of his throat, as if accustomed to keeping his thoughts to himself. Cline's father, Paul, was a contract miner in Beckley, West Virginia; he operated rich men's mines in exchange for a cut of what his team pulled up. When Cline was 6, his dad paid him a penny for each little bag he filled with dirt, which would be used to pack explosives into coal seams. When their front porch collapsed, it became clear young Chris had been excavating dirt from under the house. "It taught me the importance of engineering roof supports," he says. He first went to work underground at age 15; the miners would hide him when inspectors came. Growing up, did Cline consider himself poor? "How much more poor can you get?"

Cline's first, battered hard hat sits above the fireplace in his mansion in Beckley. He created a lake here by damming up the hollow; it's big enough for waterskiing and features a 400-foot waterslide. There's also a go-kart track and a pasture, where 150-pound Italian sheepdogs keep tabs on livestock—including Fabio, a white stallion that stands at stud in a luxurious stable. Cline has four kids, now grown. His first wife died of cancer; he's divorced from his second. For four years he dated Tiger Woods' ex-wife, Elin Nordegren.

Cline's gun vault holds more than 50 firearms, including a Magnum .44 and a Gatling gun. The Bureau of Alcohol, Tobacco & Firearms comes out once a month to take inventory. A few years back, Cline was the subject of an extortion attempt that threatened his children. "Let 'em come," he says with a grin.

Today he's armed with a sheaf of papers. There are architectural renderings for his island in the Bahamas and photocopies of old pics. A black-and-white shot shows a young Cline outside the little house where for fun he'd flatten bottle caps under the rails of the coal trains that ran a stone's throw from the front door. "I'd hitch a ride on a train, hang on for a few miles, then grab one coming back."

Cline has since upgraded his transportation. He spends 400 hours a year in the air—most of it on his $50 million Embraer Lineage 1000—



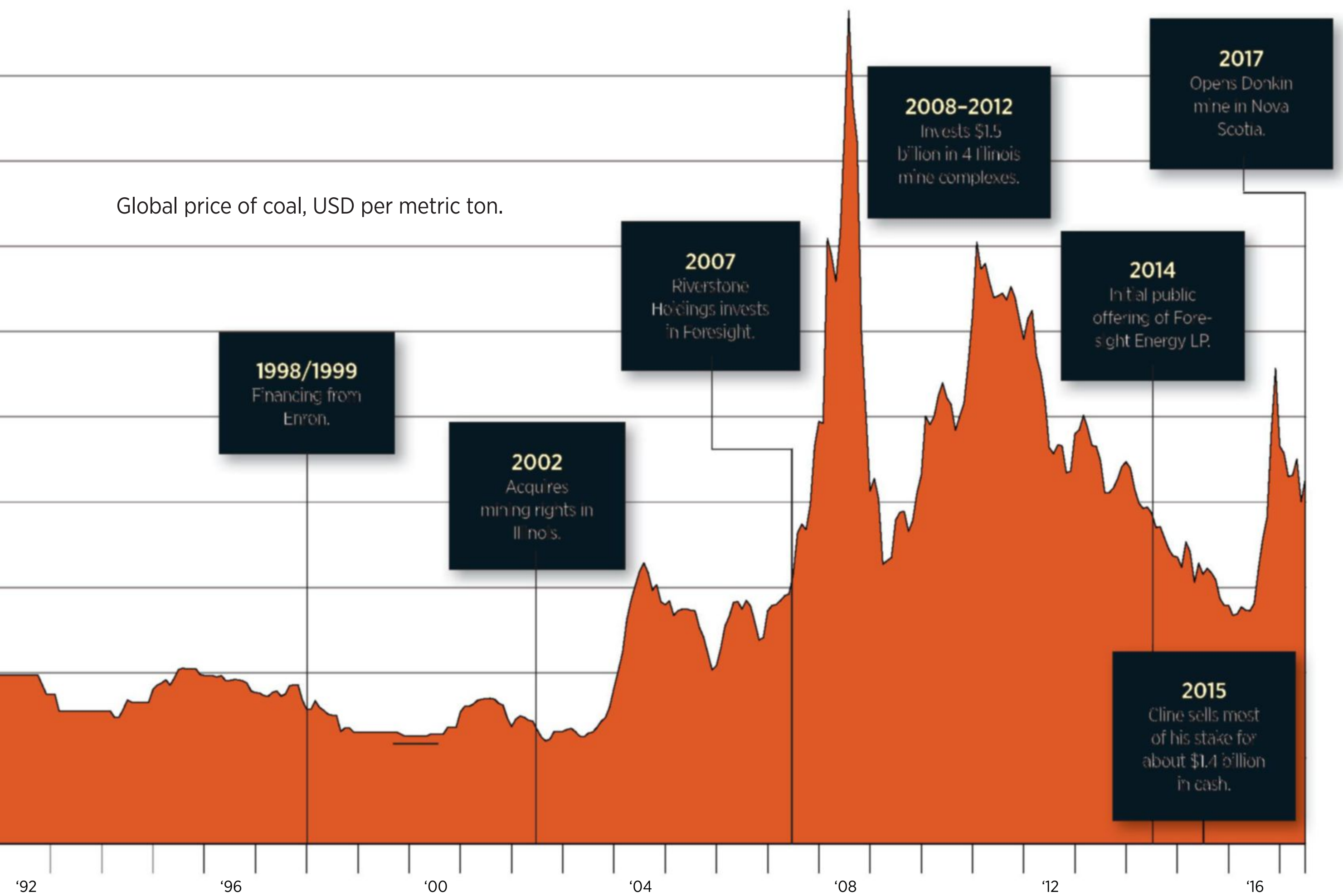

SOURCE: U.S. FEDERAL RESERVE.

shuttling between his homes, making due-diligence tours of mines in Australia and Colombia, or hauling a *Forbes* camera crew to Nova Scotia, where he has been operating the Donkin mine since April. He applies the same philosophy to his planes as he does to his capital equipment: "We buy the best and run it hard."

Underground, 1,000-horsepower mining machines rip the coal face with rotating claws; roof bolters hammer steel rods into the ceiling to hold the rock in place. Cline saw early on how much more coal he could produce with reliable equipment. Productivity and profits correlate strongly with uptime. If a vital machine breaks down and needs parts, Cline thinks nothing of sending one of his jets to fetch spares from anywhere on the continent. The math is easy: Every minute his crews are not ripping coal out of the earth equates to hundreds of dollars in lost revenue. And, yes, it's dangerous. "It used to be brutal," he says. "We're trying to get all the hard work out of it."

**IN 1980, WHEN** Cline was 22, his father had heart bypass surgery, and his partner offered $50,000 to buy him out. "My dad was going to do it." But Cline had no doubt he could work harder and smarter than anyone else. "I said, 'Why don't we buy *him* out?' " And so they did, borrowing every penny. The first two weeks he worked 16-hour days and never saw sunlight—whatever it took to make his payments. With every success he doubled down. He lays on the table some pictures of himself from the 1980s—grinning, mustachioed, standing in front of an early mine named after his daughter Candice. His first big success came with Pioneer Fuel, a mine he acquired for $1 million and flipped for $17 million.

He bought a Lamborghini and a 200-foot yacht called *Mine Games,* but most of the money went back into the Appalachian ground. He implemented worker-friendly innovations like air-conditioned cockpits for mining machines. And he began handing out daily bonuses in the form of dollar coins, based on how many feet of coal a team had mined that day. "A man can go home and give it to his wife. Or buy some beer," Cline says. At year's end he'd hand out checks to cover taxes due. "Those guys would run through a wall for him," says Andy Fox, an independent mining engineer who first met Cline when Cline pulled up to his office in a red Porsche 928 on the way to the beach and unloaded five bags of coal he needed Fox to analyze.



Empty lockers: Cline hoped to create 200 mining jobs for distressed Nova Scotia. After layoffs, there are now only 81 at the Donkin mine.

Still, it's not enough to be innovative. "You need a little luck," Cline says. In the late 1990s he had acquired enough reserves to build six new mines. Enron was big in natural gas and wanted to diversify into coal, especially coal trading. Cline got $85 million in loans and equity from Enron to build three mines. After Enron's 2001 collapse, he bought back the interests for $13 million, then turned around and sold a similar stake to ArcLight Capital Partners for $151 million. By 2003 he was out of Appalachian coal altogether.

The coal industry had watched intently as the EPA cracked down on emissions of acid-rain ingredients like sulfur dioxide in the early 2000s. The quickest way for many power companies to comply was to stop buying high-sulfur coal (e.g., from Illinois) in favor of low-sulfur varieties (like those from Wyoming). Panicked holders of high-sulfur reserves just let their leases lapse and walked away.

Through a new company, Foresight Energy, Cline started accumulating 3 billion tons of high-sulfur reserves in Illinois for less than 30 cents a ton, some of it from the likes of Exxon Mobil. What did Cline know that they didn't? He believed in technology and was encouraged by power-plant innovations like scrubber systems that capture toxins before they go up the smokestack, enabling them to keep right on burning high-sulfur coal. Plus, he was used to making money on mines with seams just 3 feet thick. Those Illinois seams were 6 feet or thicker. "If it gets to where you can vertically stand up, it's a lot more pleasant."

"I didn't see it as a huge risk," Cline says. He took on private-equity capital on one condition: no second-guessing. "He didn't want to be tinkered with," says Bartow Jones, a partner at Riverstone Holdings, which invested $600 million between 2007 and 2008. Not only did they acquiesce, Jones says, "we insisted on it." Cline put $2 billion into four mine complexes, which soon became the most productive underground operations in the nation, averaging 13 tons per man-hour at costs of $23 per ton with output of 20 million tons per year.

Cline had created a market for high-sulfur Illinois coal. "Coal is not a commodity," Jones says. "You can't just shove it into a pipeline like natural gas." Cline swayed power plants to his coal by paying for their sulfur-catching upgrades out of his own pocket. He acquired docks on the Mississippi and built rail spurs to load coal from 100-car trains directly onto ships bound for India and Europe. Cline needed an exit for his investors. In early 2014 Foresight held an IPO and hit a market cap of $2.5 billion. By early 2015 Riverstone had exited, having nearly doubled its money at a time when many coal giants like Peabody Energy and Alpha Natural Resources were headed toward bankruptcy. Foresight's relative soundness made it an attractive target for Robert Murray, a 77-year-old coal magnate whose privately held Murray Energy paid Cline a little less than $1.4 billion cash in 2015 for most of Cline's Foresight stake. The two coal barons had been at odds for years in Illinois, blocking each other via strategic land purchases. Cline stepped down from the Foresight board of directors last March, though he still owns 2 billion tons of Illinois reserves, a slug of Foresight bonds and around 29% of Foresight shares—which have traded down 75% since the Murray deal.

**IN 2010,** as Foresight was hitting its stride, Cline was hungry for something new. He formed a company called Gogebic Taconite that tried to get permits for a Wisconsin iron ore mine on the shores of Lake Superior. But in 2013 the plan ran afoul of the Bad River Band of the Lake Superior Tribe of Chippewa Indians, who farm wild rice in the area. Cline canceled the plans, he says, because of low iron prices. "It will be mined someday."

Canada was more hospitable. On the day of Foresight's IPO in 2014, Cline rang the bell on the floor of the New York Stock Exchange, then hopped on his plane and three hours later landed in Nova Scotia to go down into a mothballed mine shaft on the eastern tip of Cape Breton, in a town called Donkin. He was drawn to the huge 12-foot-thick seam and the coal's high energy content, which at 14,000 British thermal units per ton can be readily turned into high-value coke for steelmaking.

He was also impressed that the highest-risk capital had al-

PHOTOGRAPHED BY JAMEL TOPPIN; GROOMING: SUZANA HALLILI USING ZIRH & SISLEY, PARIS

ready been sunk. The Donkin Project was a Hail Mary by the Canadian government to prop up a dying industry; it spent $50 million in the 1980s to bore twin tunnels 2 miles out under the Atlantic Ocean to tap a massive 500 million ton coal bed. By the time the shafts were cut in the late 1980s, benchmark coal prices had dropped *(see chart, p. 68)*. When 26 miners died in a 1992 explosion at Nova Scotia's Westray mine, it seemed like the end of the industry. But time—and higher commodity prices—heals all wounds. And Donkin was the perfect size for Cline, who bought 75% of it in late 2014 for an estimated $20 million (he'd snap up the remaining 25% the following year).

Since then, ten of Cline's old Foresight lieutenants have jumped to Donkin, where they've overseen $150 million of investments. That includes a 6,000-hp conveyor system to carry raw coal out of the mine, run it through a cleaning plant and hoist it 100 feet in the air, from which pulverized chunks drop onto jet-black pyramids. In time the conveyors will extend a half-mile to a barge-loading dock. For now front-end loaders scoop coal into trucks that carry it to Panamax-size ships at nearby Sydney. Legendary coal trader Ernie Thrasher is Cline's partner on the logistics side. He says Donkin's location, nearly halfway across the Atlantic, makes shipping costs to Rotterdam at least 30% ($5 per ton) less than they would be from central Appalachia. The best coking coal fetches more than $200 a ton today. The simplest way to sum up Cline, according to Thrasher: "He sees value in assets others overlook."

**"EVEN THOSE PROTESTING KNOW THAT COAL IS A GOOD THING FOR THE COMMUNITY. IT'S IN OUR BLOOD."**

Environmental opposition in economically depressed Nova Scotia is restrained. "Even those protesting the trucks know the coal is a good thing for the community," says Paul Carrigan of the Port of Sydney Development Corp. "It's in our blood." European settlers mined the first coal here 300 years ago. Through the 1970s mining and steelmaking thrived, employing 20,000 before competition from the likes of China wiped it all out. There's talk of using some of Donkin's output to fuel Nova Scotia's remaining coal plants. With plentiful wind and hydropower, Nova Scotia is well within Canada's emissions standards.

Even First Nations peoples, like the Mi'kmaq, have been placated with jobs and a royalty on every ton. The mining jobs, paying $100,000 a year, are "an economic lifeline," says Geoff MacLellan, a rep in the Nova Scotia legislature. But how many jobs will there be? At first, Cline had said 200. But in early November—six weeks after *Forbes* toured the Donkin site with Cline—the mine laid off 49 of 130 workers. Just a bump at the start of a long road, Cline says. After they did some test drilling for a few months, productivity wasn't high enough, so they need time to bring in new equipment. Cline is patient. He has no equity partners or outside financing on Donkin. Once the mine is rocking and rolling, within ten years it could be generating $500 million in annual revenues and putting $100 million in cash into Cline's pocket. The reserves are vast enough to last for decades.

Is there anything that keeps Chris Cline up at night? "Sago," he says, the name of a West Virginia mine then owned by International Coal Group where in 2006 a methane explosion killed a dozen miners. Initial reports claimed there were many survivors. Which only deepened the anguish once the bodies were found. Then in 2010 came the disaster at Massey Energy's Upper Big Branch Mine, also in West Virginia, where 29 died. Cline had nothing to do with either incident, though over the years four workers have died in his mines, including his best friend. There are other risks. The Illinois attorney general sued and settled with Foresight for just $300,000 (plus $6.9 million in mine "retirement obligations") over the pollution of groundwater with toxic coal slurry. Lisa Salinas, a critic of Cline who owns a farm 100 yards from an unlined slurry pond in Carlinville, thinks the settlement is a joke because it "calls for little to no valid mitigation of the existing pollution and, in fact, only encourages more damage." A Foresight mine near Hillsboro, Illinois, has been shut since 2015 because of a dwindling coal fire.

Cline is amused by the popular misconception that coal is on its deathbed. Yes, coal-fired power plants do continue to close, and U.S. coal output, currently 700 million tons a year, is down 30% from its peak. And yet the U.S. still relies on coal for 30% of its electric power, compared with just 7% for wind and solar combined. Worldwide demand for coal continues to grow, possibly (but not definitely) peaking by the mid-2020s. Policy and technology are the wild cards; Paul McConnell at energy consultancy Wood Mackenzie figures that advances in solar and battery technology plus worldwide carbon taxes have the potential to erode coal demand by 8% a year.

But the death of coal—if it comes at all—will be long and slow. Cline aims for his next project, in Alberta, to be a survivor. He acquired the Vista project via his takeover of the Toronto-listed company Coalspur in early 2015 for an estimated $75 million. The seam is 70 feet thick on the surface, so Cline will build Vista as a pit mine, then go underground to eventually tap 1.7 billion tons. By 2022 it could be doing 10 million tons per year. Cline is cold-blooded when it comes to pushing marginal operators out of business. His Illinois mines took business from Appalachia. His Canadian projects will take business away from Illinois. "I think [Vista] could be the last mine operating after they've shut down all the rest of the coal in the world," he says.

Cline plans to enjoy the rising sea levels in splendor. He recently acquired Big Grand Cay, a 280-acre archipelago in the Bahamas that used to be owned by Bob Abplanalp, inventor of the aerosol spray can. On his iPad, Cline scrolls through plans for a serene resort amid azure waters and nonjudgmental massage therapists. It's too expensive even for this billionaire to haul in enough diesel to keep the generators running, so he's installing solar panels and researching Tesla batteries, and has three wind turbines on order. "Where it makes sense," Cline says, "I'm absolutely for it." F

Turn the page and open the fold to see the World's Most Powerful Women ▶

# Women are changing the world.

**Women control...**

30%

of the wealth

**Women are on track to add...**

$12T

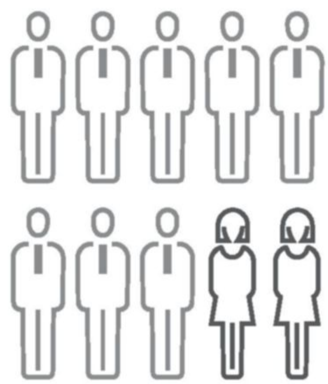
to the global economy by 2027

**Everybody wins**

Profits rise when at least

20%

of the Board are women



"At UBS, we recognize how women are challenging, reinventing and innovating – inspiring the next generation to do the same. Women are part of our agenda – in our business, our workplace and our communities."

Source: UBS "Women as a force for economic change," 2016.

NO. 1: ANGELA MERKEL

MARTIN SCHOELLER/ART + COMMERCE

# THE WORLD'S 100 MOST POWERFUL WOMEN

WHO'S IN CHARGE? FOURTEEN YEARS AGO, WE DEFINED WHAT IT MEANS TO BE A POWER WOMAN: ECONOMIC MIGHT, A WIDE SPHERE OF INFLUENCE AND HIGH-OCTANE IMPACT. THIS YEAR'S LINEUP INCLUDES THE ICONS YOU KNOW ON A FIRST-NAME BASIS: ANGELA, MELINDA, OPRAH, BEYONCE. BUT WE'RE INTRODUCING A BRAND-NEW GENERATION OF HEADS OF STATE, CEOS, FOUNDERS, VISIONARIES AND LEADERS. A FULL QUARTER ARE NEWCOMERS TO THE GLOBAL STAGE—WOMEN WHO ARE BUILDING BILLION-DOLLAR BRANDS, MOVING MARKETS AND CRISSCROSSING THE GLOBE ON HUMANITARIAN MISSIONS. TOGETHER THEY GOVERN OR DIRECTLY INFLUENCE MORE THAN 3 BILLION PEOPLE AND $51 TRILLION IN GDP AND REVENUE, AND HAVE A PERSONAL NET WORTH OF OVER $97 BILLION.

**EDITED BY DOROTHY POMERANTZ AND SAMANTHA SHADDOCK WITH CAROLINE HOWARD**

★ NEW TO THE LIST

**1**
**ANGELA MERKEL**
*Chancellor • Germany*

**2**
**THERESA MAY ★**
*Prime minister • U.K.*

**3**
**MELINDA GATES**
*Cochair • Bill & Melinda Gates Foundation • U.S.*

**4**
**SHERYL SANDBERG**
*COO • Facebook • U.S.*

**5**
**MARY BARRA**
*CEO • General Motors • U.S.*

**6**
**SUSAN WOJCICKI**
*CEO • YouTube • U.S.*

**7**
**ABIGAIL JOHNSON**
*CEO • Fidelity Investments • U.S.*

**8**
**CHRISTINE LAGARDE**
*Managing director • International Monetary Fund • France*

**9**
**ANA PATRICIA BOTÍN**
*Chair • Banco Santander • Spain*

**10**
**GINNI ROMETTY**
*CEO • IBM • U.S.*

**11**
**INDRA NOOYI**
*CEO • PepsiCo • U.S.*

**12**
**MEG WHITMAN**
*CEO • HP • U.S.*

NO. 15: TSAI ING-WEN

ILLUSTRATIONS BY DANIEL HERTZBERG

**13**
**ANGELA AHRENDTS**
*Senior VP, retail • Apple • U.S.*

**14**
**LAURENE POWELL JOBS**
*Founder • Emerson Collective • U.S.*

**15**
**TSAI ING-WEN**
*President • Taiwan*

**16**
**MICHELLE BACHELET**
*President • Chile*

**17**
**FEDERICA MOGHERINI**
*High representative of the EU for foreign affairs and security policy • Italy*

**18**
**SAFRA CATZ**
*Co-CEO • Oracle • U.S.*

**19**
**IVANKA TRUMP ★**
*Advisor to the president • White House • U.S.*

**20**
**ADENA FRIEDMAN**
*CEO • Nasdaq • U.S.*

**21**
**OPRAH WINFREY**
*Media mogul • U.S.*

**22**
**MARILLYN HEWSON**
*CEO • Lockheed Martin • U.S.*

**23**
**ISABELLE KOCHER ★**
*CEO • Engie • France*

**24**
**RUTH BADER GINSBURG, ELENA KAGAN, SONIA SOTOMAYOR**
*Supreme Court justices • U.S.*

**25**
**RUTH PORAT**
*CFO • Alphabet • U.S.*

**26**
**QUEEN ELIZABETH II**
*Monarch • U.K.*

**27**
**ANNA WINTOUR**
*Artistic director • Condé Nast • U.S.*

**28**
**HO CHING**
*CEO • Temasek • Singapore*

**29**
**EMMA WALMSLEY ★**
*CEO • GlaxoSmithKline • U.K.*

**30**
**SHEIKH HASINA WAJED**
*Prime minister • Bangladesh*


MARTIN SCHOELLER/AUGUST
NO. 12: MEG WHITMAN


MARTIN SCHOELLER/AUGUST
NO. 21: OPRAH WINFREY


NO. 27: ANNA WINTOUR

**31**
**BEATA MARIA SZYDLO ★**
*Prime minister • Poland*

**32**
**CHANDA KOCHHAR**
*CEO • ICICI Bank • India*

**33**
**AUNG SAN SUU KYI**
*State counselor • Myanmar*

**34**
**LUCY PENG**
*Executive chair • Ant Financial Services • China*

**35**
**POLLYANNA CHU**
*CEO • Kingston Financial Group • Hong Kong*

**36**
**SHEIKHA LUBNA AL QASIMI**
*Minister of state for tolerance • U.A.E.*

**37**
**AMY HOOD**
*CFO • Microsoft • U.S.*

**38**
**JACINDA ARDERN ★**
*Prime minister • New Zealand*

**39**
**KOLINDA GRABAR-KITAROVIĆ**
*President • Croatia*

NO. 4: SHERYL SANDBERG

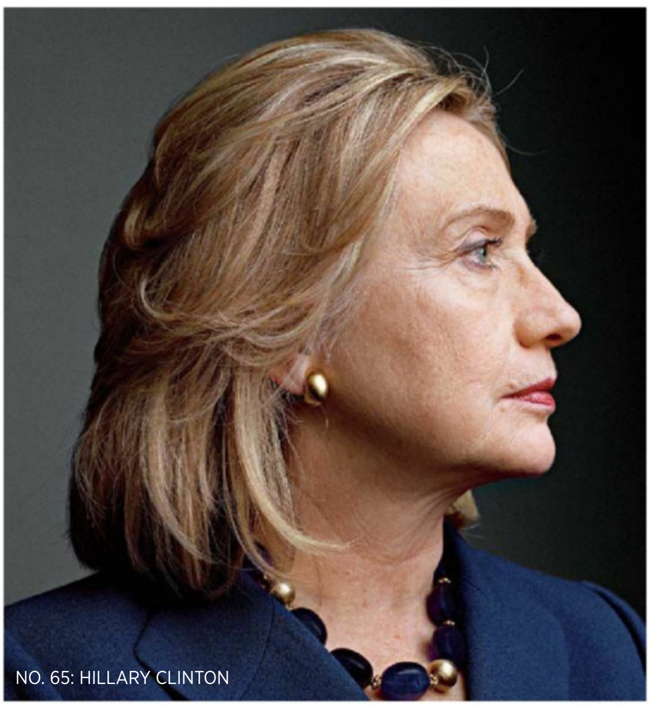
MARTIN SCHOELLER/AUGUST

NO. 36: SHEIKHA LUBNA AL QASIMI

**40**
**JEAN LIU ★**
*President • Didi Chuxing • China*

**41**
**BONNIE HAMMER**
*Chair • NBCUniversal Cable Entertainment • U.S.*

**42**
**NICOLA STURGEON**
*First minister, Scotland • U.K.*



NO. 65: HILLARY CLINTON

MARTIN SCHOELLER/ART + COMMERCE

**43**
**NIKKI HALEY ★**
*UN ambassador • U.S.*

**44**
**ROSALIND BREWER**
*COO • Starbucks • U.S.*

**45**
**GINA RINEHART**
*Executive chair • Hancock Prospecting • Australia*

**46**
**ERNA SOLBERG ★**
*Prime minister • Norway*

**47**
**STACEY SNIDER ★**
*CEO • 20th Century Fox Film • U.S.*

**48**
**PHEBE NOVAKOVIC**
*CEO • General Dynamics • U.S.*

**49**
**ELVIRA NABIULLINA**
*Governor • Bank of Russia • Russia*

**50**
**BEYONCE KNOWLES**
*Musician • U.S.*

**51**
**PENG LIYUAN**
*First lady • China*

**52**
**MARGARITA SIMONYAN ★**
*Editor-in-chief • RT • Russia*

**53**
**MARY CALLAHAN ERDOES**
*CEO, asset management • JPMorgan • U.S.*

**54**
**ZHOU QUNFEI**
*Founder • Lens Technology • Hong Kong*

**55**
**NGUYEN THI PHUONG THAO**
*Cofounder • Sovico Holdings • Vietnam*

**56**
**LISA DAVIS ★**
*CEO • Siemens USA • U.S.*

**57**
**ROSHNI NADAR MALHOTRA ★**
*CEO • HCL Technologies • India*

**58**
**GÜLER SABANCI**
*Chair • Sabanci Holding • Turkey*

**59**
**LUBNA OLAYAN**
*CEO • Olayan Financing • Saudi Arabia*

**60**
**DANA WALDEN**
*CEO • Fox Television Group • U.S.*

**61**
**KATHARINE VINER**
*Editor-in-chief • Guardian • U.K.*

**62**
**WANG FENG YING**
*CEO • Great Wall Motor Co. • China*

**63**
**DONNA LANGLEY**
*Chair • Universal Pictures • U.K.*

64
**MARIANNE LAKE ★**
*CFO • JPMorgan Chase • U.K.*

65
**HILLARY CLINTON**
*Former presidential candidate • U.S.*

66
**MINGZHU DONG**
*Chair • Gree Electric Appliances • China*

67
**MELANIE KREIS ★**
*CFO • Deutsche Post • Germany*

68
**DALIA GRYBAUSKAITE**
*President • Lithuania*

69
**PRISCILLA CHAN ★**
*Cofounder • Chan Zuckerberg Initiative • U.S.*

70
**GWYNNE SHOTWELL**
*COO • SpaceX • U.S.*

71
**KIRAN MAZUMDAR-SHAW**
*Founder • Biocon • India*

72
**ZANNY MINTON BEDDOES**
*Editor-in-chief •* The Economist *• U.K.*

73
**MIUCCIA PRADA**
*Co-CEO • Prada • Italy*

74
**ISABEL DOS SANTOS ★**
*Business tycoon • Angola*

75
**SOLINA CHAU**
*Cofounder • Horizons Ventures • Hong Kong*

76
**LAM WAI YING ★**
*Chair • Biel Crystal Manufactory • Hong Kong*

77
**KATHLEEN KENNEDY ★**
*President • Lucasfilm • U.S.*

78
**KERSTI KALJULAID ★**
*President • Estonia*

79
**ARIANNA HUFFINGTON**
*Founder • Huffington Post • U.S.*

80
**JUDY FAULKNER**
*Founder • Epic Systems • U.S.*

81
**FABIOLA GIANOTTI**
*Director-general • CERN • Italy*

82
**LYNN GOOD**
*CEO • Duke Energy • U.S.*

83
**GEISHA WILLIAMS ★**
*CEO • PG&E • U.S.*

84
**MARY MEEKER**
*General partner • Kleiner Perkins Caufield & Byers • U.S.*

85
**TAYLOR SWIFT**
*Musician • U.S.*


NO. 44: ROSALIND BREWER


NO. 73: MIUCCIA PRADA

MARTIN SCHOELLER/AUGUST

86
**PATRICIA HARRIS**
*CEO • Bloomberg Philanthropies • U.S.*

87
**DREW GILPIN FAUST**
*President • Harvard University • U.S.*

88
**J.K. ROWLING**
*Author • U.K.*

89
**ELIZA MANNINGHAM-BULLER**
*Chair • Wellcome Trust • U.K.*

90
**RAJA EASA AL GURG**
*Managing director • Easa Saleh Al Gurg Group • U.A.E.*

91
**DEBRA CAFARO**
*CEO • Ventas • U.S.*

92
**SHOBHANA BHARTIA**
*Chair • HT Media • India*

93
**LEE BOO-JIN**
*CEO • Hotel Shilla • South Korea*


NO. 57: ROSHNI NADAR MALHOTRA

94
**JENNY LEE**
*Managing partner • GGV Capital • Singapore*

95
**KIRSTEN GREEN ★**
*Founder • Forerunner Ventures • U.S.*

96
**BELINDA JOHNSON ★**
*Chief business affairs and legal officer • Airbnb • U.S.*

97
**PRIYANKA CHOPRA ★**
*Actor • India*

98
**KATHRYN PETRALIA ★**
*Cofounder • Kabbage • U.S.*

99
**ANNE FINUCANE ★**
*Vice chair • Bank of America • U.S.*

100
**BETH BROOKE-MARCINIAK**
*Global vice chair • EY • U.S.*

# DO GOOD, GET RICH

EDITED BY JANET NOVACK AND MATT SCHIFRIN

IMPACT INVESTING

## Hidden Figures

FEMALE ENTREPRENEURS GET SHORT SHRIFT FROM SILICON VALLEY'S VC GIANTS. JENNY ABRAMSON'S RETHINK IMPACT SEES THAT AS AN OPPORTUNITY TO PROFIT.

**BY ASHLEA EBELING**

Venture capitalist Jenny Abramson is holding her once-a-month open office hours at Hera Hub, a women's co-working space in Washington, D.C. With her long, straight black hair swept out of the way over her right shoulder, she deftly jots notes with a stylus on an iPad while maintaining eye contact as Kimberly Linson tells her about Leaderally, a new professional learning site for teachers.

Linson, 46, is clutching a Dream/Believe/Achieve notebook and understandably seems a tad nervous about the site's planned January beta launch. She and her two female cofounders quit their longtime management jobs at a tutoring company to take the entrepreneurial plunge.

After peppering Linson with questions, Abramson declares herself "thrilled" with the Leaderally concept but suggests the women market initially to charter school teachers, who typically have less experience and more flexibility to adopt new methods than their public school counterparts. Abramson knows this space; she serves on the board of D.C. Prep, a high-performing local charter, and worked in program strategy at Teach for America between studying genomics as a Fulbright scholar at the London School of Economics and earning her Harvard M.B.A.

"The oracle has spoken!" declares a grateful Linson, as she makes way for the next mentee.

Abramson, 40, is founder and manag-

JAMEL TOPPIN FOR FORBES

Jenny Abramson's pitch to female founders: I've been in your shoes.

"We're trying to build a new breed of VC firm," says Heidi Patel.

JAMEL TOPPIN FOR FORBES

ing partner of Rethink Impact, which in March closed on a $112 million fund investing in women-led, tech-driven startups with social impact. That might not sound like a lot, but it's the biggest VC pot in the U.S. dedicated to female founders. Just 8% of partners at the 100 largest U.S. venture firms are female, and 58 of those firms have no women partners at all, CrunchBase reports. Moreover, companies founded solely by women have snagged just 4.4% of VC deals—and less than 2% of VC dollars—since the start of 2016, according to data compiled by Pitchbook.

The investment case for Rethink Impact is compelling: If worthy women-led startups have a harder time getting funded, then investors ready to give them a fair shot can pick from the best and capture extra returns. Indeed, when First Round Capital reviewed the 300 early-stage investments it made between 2005 and 2015, it found those with at least one female founder had performed 63% better than companies with all-male teams. Sure, that's just one VC firm's results. But other studies also suggest there's good money to be made backing women.

Abramson has a less mercenary goal too: "building an ecosystem" for female entrepreneurs.

Last summer, as sexual harassment claims rocked Silicon Valley, she and her West Coast partner, Heidi Patel, issued a pointed invitation to women to come in for advice: "You have kids or lots of other responsibilities? We see that as a positive. You can balance a million things at once. Your office doesn't have a Ping-Pong table in it? That's okay, ours doesn't either. Worried we are going to hit on you? Don't. We've both been in your shoes. We know. Your job is hard enough already, and we want to help."

So far, the two partners and their associates have met with or had phone and email exchanges with 700 female founders. They aim to connect with 2,500 to 3,000 companies during the life of the fund, even though Rethink Impact will invest in just 25 to 30.

"We're trying to build a new breed of VC firm," says Patel, a 42-year-old Stanford M.B.A. who has spent most of her career in impact investing. "Our industry has been in the headlines for all the wrong things lately. We have the opportunity to level the playing field in a way no one else is really doing now."

Abramson isn't alone in smelling opportunity. In October the Wharton Social Impact Initiative reported that 47 U.S. funds that invest with a "gender lens" have raised $1.1 billion, most of it in just the past few years.

Among new funds focusing exclusively on women, Rethink Impact is one of the best connected. Two investors—Black Entertainment Television cofounder Sheila Johnson and Sachiko Kuno, cofounder of two drug companies—are on *Forbes*' 50 Richest Self-Made Women list.

Another prominent investor is Jennifer Frist, of the billionaire Frist family of Tennessee. She met Abramson at a Nashville luncheon for 30 potential investors sponsored by UBS Wealth Management, which chose Rethink Impact as the first private impact fund it offered to U.S. clients. There's a good reason for that. John Amore, who heads UBS' impact-investing strategies for the U.S., notes that women, along with Millennials, are most likely to demand their investments do more than just make money.

"I like helping other women, and I like businesses that make a difference," says Frist, who studied computer engineering at Vanderbilt and invested $1 million in Rethink Impact, including $250,000 each on behalf of her two daughters, ages 12 and 15.

Talk about power networking. Frist brought a guest to the UBS luncheon: Jessica Harthcock, the 31-year-old founder and CEO of Utilize Health, which coordinates rehabilitative care for patients who have suffered strokes and other neurological injuries. Harthcock herself sustained a severe spinal cord injury at age 17 during training for competitive diving. Frist became her lead angel investor after judging a Steve Case Rise of the Rest competition in Nashville, where Harthcock pitched but didn't win. Now Harthcock and Abramson are keeping in touch; while Rethink Impact mentors at the angel and seed stage, it typically invests in Series A or later rounds.

So far, Rethink Impact has put money into 14 companies, including Neurotrack, which offers online screening for cognitive decline to worried Baby Boomers; Change.org, the e-petition site; Werk, an online platform for finding flexible professional and management jobs; Aclima, which designs and deploys air-quality sensor networks; and Angaza, a San Francisco- and Nairobi-based pay-as-you-go solar power company. Angaza's recent Series B was led by billionaire Laurene Powell Jobs' Emerson Collective.

In August, Rethink Impact led a $34.6 million round for Ellevest, a robo-investing site for women, and Abramson joined its board. Participants in the round included billionaire Penny Pritzker's PSP Growth, Chicago money manager Mellody Hobson, Salesforce Ventures and Khosla Ventures.

There's a bittersweet aspect to Abramson's efforts. Two decades ago her mother, Patty Abramson, raised $50 million for a Washington, D.C.-based venture firm dedicated to backing women. She even posed holding a cigar on the cover of a local tech magazine with the tag line "Welcome to the Club." But after the 2000 dot-com crash, Patty Abramson returned the money to investors, exiting without an overall net loss or gain.

Daughter Jenny didn't start her work life intending to pick up her mom's mantle. After earning her M.B.A., she spent eight years as an executive at the Washington Post Co. It wasn't until 2013, when she became CEO of startup LiveSafe—which sells an app to crowdsource safety information from mobile phone users—that Abramson fully appreciated how little progress women had made, funding-wise, since her mother's aborted fund. She decided to become a venture capitalist herself.

In 2015 Abramson partnered with the Seavest Group to launch Rethink Impact and then started searching for a partner with impact-investing chops. Through her Stanford network (Abramson earned a B.A. and an M.A. there) she connected with Patel, who learned on the ground as an Acumen Fund fellow in India. More recently, Patel helped build a 34-person impact-investing team and a 130-investment impact portfolio for a rich family. On the side, she teaches impact investing at Stanford's business school.

"There is momentum," Abramson says, as she reflects on the growing sources of funding for women entrepreneurs. Then she hesitates and, in a nod to her mother, adds: "Some people thought there was momentum 20 years ago. What's exciting is our size. It might be a sign that there really is change coming [this time]." F

## PLAYING THE WOMAN CARD

WHATEVER YOUR NET WORTH, THERE ARE A GROWING NUMBER OF WAYS TO INVEST IN WOMEN'S SUCCESS.

- Last year State Street launched the SPDR SSGA Gender Diversity Index ETF (SHE), which invests in large-cap U.S. companies that rank high in their sectors for women in senior management. With an annual expense of just 20 basis points, it already has more than $350 million in assets.

- PAX World Investments offers the three-year-old Ellevate Global Women's Index Fund (PXWEX) in concert with Sallie Krawcheck, the cofounder of ElleVest. There's a 90-basis-point annual charge and $1,000 investment minimum. The fund has $175 million in assets and has beaten the global-equity benchmark MSCI World Index.

- Motif Investing, an online platform that packages fractional shares of individual stocks into portfolios, allows you to buy into its No Glass Ceiling Motif, for a $9.95 trading fee, with a $250 minimum. It's made up of public companies run by women, including PepsiCo, IBM, Oracle, Lockheed Martin and Campbell Soup. (You can customize it further for $4.95 per stock trade.)

- Private wealth managers have gotten into the game. U.S. Trust's Women & Girls Equality Strategy, with a $75,000 minimum investment, picks from companies that score high on equal pay and a positive media portrayal of women. Morgan Stanley's Parity Portfolio, with a $100,000 minimum, invests in companies with at least three women board members and policies favorable to women.

- While Rethink Impact is now closed to new investors, other VC partnerships investing in women are still raising funds. Minimum investments range from $10,000 for the New Hampshire-based Impact New Hampshire to $250,000 for True Wealth Ventures, based in Austin, Texas. —*A.E.*

ALTERNATIVE ENERGY

# The Fossil-Free Oil Play

YOU CAN GET YOUR EXPOSURE TO RISING FUEL PRICES WITHOUT TOUCHING THE STUFF.

**BY WILLIAM BALDWIN**

What makes you want to buy solar stocks—guilt or greed? Lucas White, who picks those stocks at Grantham, Mayo, Van Otterloo, could justify his portfolio either way. But it was more the payoff on energy that got him started.

Six years ago GMO assigned White to help run its natural resources portfolio. There's no way to operate such a portfolio without a hefty exposure to energy. And that got White thinking about the financial hazards embedded in oil and gas wells.

"All the risks I saw over the short to medium term you can diversify away from," he says. "But not the long-term risk, the stranded-asset risk. Carbon regulation could mean that your coal, tar sands and heavy oil can never be developed. Technological disruption could render your assets useless."

Solution: Put some of your energy money with the anti-oil crowd. Own solar and wind companies.

Alongside a well-diversified allocation to fossilized-energy companies like Royal Dutch Shell, Statoil and Chesapeake Energy, the GMO Resources Fund has money in companies like First Solar, which makes photovoltaic panels; Sociedad Química y Minera, which mines lithium; and Iberdrola, a Spanish utility that gets a third of its electricity from renewable sources.

But there are only so many investors who want their clean stocks mixed in with the dirty ones. So this year GMO created an offshoot of its resources fund: a pure play on green called the GMO Climate Change Fund. With alternative-energy stocks, White says, you can get all the exposure you need to crude oil prices without touching carbon. When oil goes up, it takes oil substitutes with it. Of course it takes them down, too. The collapse in oil three years ago did a lot of damage to alt-en shares.

Lucas White, climate-sensitive stock picker at GMO.

JAMEL TOPPIN FOR FORBES

The thinking behind the two funds for which White is lead manager comes from Jeremy Grantham, the 79-year-old co-founder and chief investment strategist of GMO. Grantham is a strange mix. He is a hard-nosed value investor who, refusing to get swept up in Wall Street's periodic episodes of irrational exuberance, sees clients walk out the door during bull markets. (At $74 billion, GMO's assets under management are half what they once were.) He is also a passionate environmentalist, devoting time and money to saving the planet.

The resources fund follows an environmental theme, a bet on costly energy and scarce minerals. The climate fund fits right

in. It will be of interest to any endowment manager who's under pressure to divest oil and gas companies.

White, 43, is a younger version of Grantham, combining portfolios with ecology. He commutes to his Boston office by foot and train. He is a follower of environmental hellfire preacher Bill McKibben. He predicts a sea-level rise of 6 to 10 feet if carbon is oxidized with abandon.

But White is not an irrationally exuberant greenie. He dismisses the notion, famously promoted by Stanford professor Mark Jacobson, that the U.S. could run entirely on renewable energy by 2050. He's not going to buy an electric car until the economics are more compelling. And he isn't willing to pay more for a company just because it's virtuous; his portfolio trades, according to Morningstar, at a cheap 14 times projected earnings.

How does White contend with the risks in alternative energy, as great, perhaps, as the risk that Shell will wind up with stranded assets? One is the risk of a shift in public policy. Germany is experiencing a backlash against a renewables crusade that has consumers paying triple U.S. prices for electricity. The House tax plan would chop subsidies for windmills and electric cars. White's answer: The political risk is going away as the costs of wind and solar power come down. Despite their squawking about the tax bill, producers of renewable power have almost outgrown their need for subsidies.

Another hazard on the road to carbon independence: the not yet solved problem of storing electricity from intermittent sources. Not far from where White grew up near Albany, New York, is a system that stores energy in the form of 20 million tons of water pumped up a hill. It would be nice to have such storage depots in the Midwest, where the wind blows hard but unreliably. Alas, Kansas does not have New York's hills.

Lithium batteries to the rescue? Maybe. They're expensive. A collection of Tesla Powerwalls that could duplicate that upstate New York pond would run you $4.8 billion. White says the cost of storage will come down, too, enough so that renewably sourced electricity will cost, without help from subsidies and with storage included, less than a nickel per kilowatt-hour. Give this trend a little time and the utilities will be switching away from carbon without any political pressure.

Next item on our worrywart list: some breakthrough in solar or fusion that makes existing investments as irrelevant as Blockbuster in a Netflix era. White downplays this one. "The risk of disruptive technology doesn't eat me up at night," he says. "The risks I worry about are the risks with any company: You buy at the wrong price. You pay for growth that does not come through. Competitors drive down margins."

Erosion of profit margins is just what happened in solar-panel manufacturing, once a darling on Wall Street and then, overnight, nothing but a commodity business. Guggenheim Solar ETF shares are off from $295 a decade ago to $25 now.

You can guard against this kind of financial risk two ways. One way is to seek companies with product lines that are not easily duplicated. It's easy to set up a solar-panel assembly line. It would be hard to copycat the assembly of a 700-foot-tall turbine of the sort made by Vestas Wind Systems. It would be hard to imitate the circuitry that SolarEdge Technologies sells to make commoditized panels work better.

The other place to find a margin of safety is in the price of a share. Conspicuously absent from the GMO portfolio is Tesla, trading at ten times book and a not meaningful multiple of its negative earnings. The Spanish utility Iberdrola, in contrast, has no visionary talking about rockets and hyperloops. It costs 1.1 times book and 14 times trailing earnings.

White's climate fund has a $10 million minimum. If that's out of range, consider one of the retail mutual funds in this sector, but be careful, because irrational exuberance abounds in green energy. Interesting fact: Not counting short-selling and leveraged funds, the worst ten-year performance in the Morningstar universe has been delivered by the Guinness Atkinson Alternative Energy Fund.

Another approach: Create your own stock portfolio. The shopping list below has a fair amount of overlap with GMO Climate Change. But diversify—this is a risky business.

## GREEN DOLLARS

THESE FIRMS HELP SHRINK THE CARBON FOOTPRINT OF ENERGY CONSUMPTION.

| COMPANY | BUSINESS | TICKER | PRICE | MARKET CAP ($BIL) | ENTERPRISE MULTIPLE[2] |
|---|---|---|---|---|---|
| *FIRST SOLAR* | SOLAR PANELS | FSLR | $60.61 | $6.3 | NM |
| *IBERDROLA* | RENEWABLE ELECTRICITY | IBE.MC | 7.65[1] | 48.3 | 9.3 |
| *JINKOSOLAR HOLDING* | SOLAR PANELS | JKS | 24.60 | 0.8 | 8.1 |
| NIBE INDUSTRIER B | HEAT PUMPS | NIBE-B.ST | 9.55[1] | 4.8 | 20.5 |
| ORMAT TECHNOLOGIES | GEOTHERMAL PLANTS | ORA | 64.09 | 3.2 | 12.0 |
| *PRYSMIAN* | CABLES FOR OFFSHORE WIND | PRY.MI | 33.36[1] | 7.0 | 10.7 |
| SIEMENS GAMESA RENEWABLE ENERGY | RENEWABLE ENERGY EQUIPMENT | SGRE.MC | 10.97[1] | 7.4 | 9.6 |
| *SOCIEDAD QUÍMICA Y MINERA* | LITHIUM | SQM | 56.42 | 14.9 | 21.6 |
| *SOLAREDGE TECHNOLOGIES* | PHOTOVOLTAIC INVERTERS | SEDG | 39.70 | 1.7 | 18.0 |
| TERRAFORM POWER A | RENEWABLE ELECTRICITY | TERP | 12.96 | 1.8 | 16.5 |
| *VESTAS WIND SYSTEMS* | WIND TURBINES | VWS.CO | 58.62[1] | 12.3 | 6.5 |

*ITALICIZED FIRMS ARE IN THE GMO CLIMATE CHANGE FUND'S LATEST PUBLISHED PORTFOLIO.*

[1]CONVERTED TO DOLLARS. [2]RATIO OF ENTERPRISE VALUE (MARKET CAP PLUS DEBT MINUS CASH) TO EBITDA (EARNINGS BEFORE DEPRECIATION, INTEREST AND TAXES). *SOURCES: YAHOO; MORNINGSTAR.*

BROKERS

# Middle Mensch

IMPACT OUTFITS LIKE DAVID FANGER'S SWELL—AND THE INSURANCE GIANT BACKING IT—ARE BETTING LOW FEES, MINUSCULE MINIMUMS AND A FEEL-GOOD FOCUS WILL LURE MILLENNIAL INVESTORS.

**BY ZACK O'MALLEY GREENBURG**

If you think Hollywood is full of excrement, consider the Donald C. Tillman Water Reclamation Plant, a facility that processes 45.6 million gallons of Los Angeles-area sewage per day—precious stuff in southern California. Peering out across Tillman's bubbling muck, mustachioed operations manager Michael Ruiz offers a line reminiscent of *Chinatown* or *Mad Max*. "Everyone's fighting for this water," he says grimly. "Water wars."

Nobody knows this better than the founder and CEO of impact outfit Swell Investing: hard-hat-clad David Fanger, who listens intently as Ruiz explains the promise of new pumps made by a company called Xylem. The gear being tested at Tillman helps blast wastewater with ozone, a technique just as safe but much cheaper and quicker than traditional osmosis cleansing. One day, Xylem's technology could help Ruiz realize annual savings of about 40%, reducing the cost of delivering treated water to nearby public parks and the San Fernando Valley—in lieu of precious potable water—by about $10 million.

"Of all the companies in our clean water portfolio, Xylem is the most discussed," says Fanger, 40. "By 2030, demand will outweigh supply by 40%, so that's a huge quantity of water to supply."

Investors can buy into Xylem and 43 other companies, like biocide maker Albemarle and

ETHAN PINES FOR FORBES

Green thumb: David Fanger's six impact-driven Swell portfolios like Clean Water are on a tear.

wastewater reuse outfit Air Products & Chemicals, through Swell's Clean Water portfolio. If water's not your thing, you can choose among theme portfolios including Healthy Living, Disease Eradication, Zero Waste, Green Tech and Renewable Energy—all based around the UN's sustainable development goals.

Swell is still tiny, managing just $13 million in assets for some 2,000 customers. But they're young (average age: 36) and their numbers are growing quickly (by about 14% each week), lured by relatively low fees (0.75% versus twice that for some peers) and a minuscule minimum investment ($50). Unlike its startup brethren, Swell should have plenty of runway given its status as a subsidiary of Pacific Life, the 150-year-old financial services giant with assets of $143 billion that has happily shelled out $11 million to bankroll Fanger's brainchild.

Pacific Life is betting on an emerging trend: Millennials wanting more than financial returns from their portfolios.

**Pacific Life was intrigued by a product that might reel in a younger audience than its base of annuity customers.**

Recent reports have placed the global market for socially responsible investing at $23 trillion, reaching $53 trillion by 2025; a study by Morgan Stanley found that 38% of Millennials are very interested in sustainable investing versus 23% of the total population; 90% said they wanted eco-focused 401(k) options.

"The next generation of investors wants to align their money with their values," says Adrian Griggs, Pacific Life's chief operating officer. "From shopping to investing, they want their dollars to have a positive impact on the world. That's why we're so excited about Swell."

Fanger came up with the idea for Swell while working in Pacific Life's M&A department in 2012 on a due-diligence visit to a particularly demoralized company in New York. "Wow, the staff's not happy," Fanger noted to colleague Liam Monaghan on the flight back to California. "The values they have don't really align with this positive element that employees are looking for." So the duo decided to create something that would allow people to invest in companies that made them feel good. They built out a website to display the product with the help of a six-figure infusion from Pacific Life, which was intrigued at the prospect of seeding a product that might reel in a much younger audience than its base of annuity customers.

Fanger, a type 1 diabetic, scoured public databases to find out which publicly traded outfits donated the most to fighting his and other diseases. But when his first iteration went live in early 2015, its roster of holdings was dominated by bulk givers like Wal-Mart and Goldman Sachs—a big turnoff for most Millennials. There was also the issue of interface: Because Fanger's startup wasn't yet a registered investment advisor, users had to buy into his portfolios through Motif, a brokerage platform that lets people invest in themed baskets of stocks. After an initial burst of interest, Swell's clunky application faltered.

With Pacific Life's backing, Fanger split from Motif and established Swell as a registered investment advisor, built a new website and mobile interface where consumers could trade its products and brought on analysts to put together more enticing portfolios. The new version went live in May 2017, and with the wind of the bull market at its back, Swell's investor base has been growing rapidly.

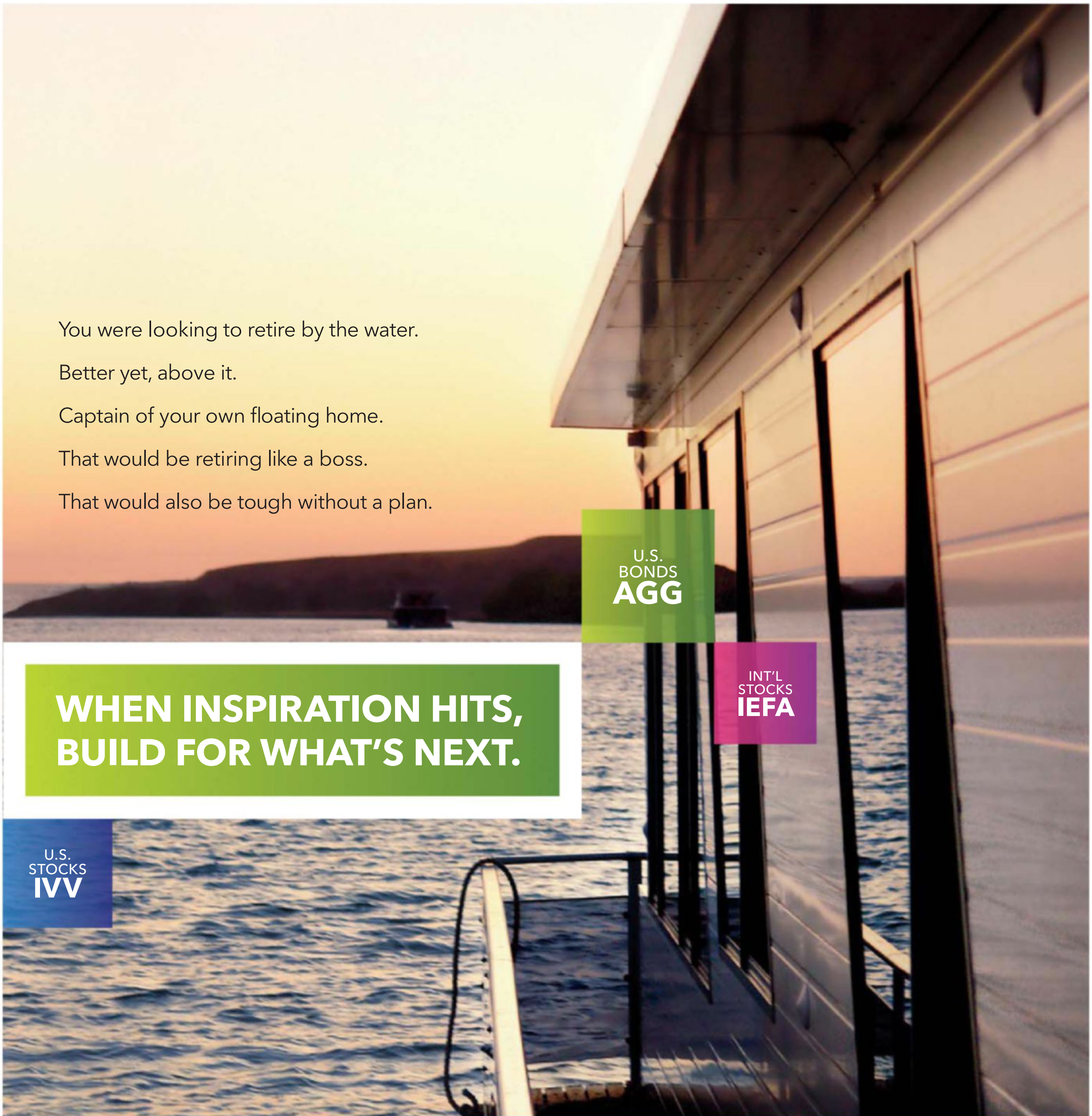
"We know that consumers don't want to sacrifice return," Fanger says. All six of his portfolios have matched or beaten index benchmarks since May.

Of course, Fanger isn't the first to offer a retail solution for impact investing. A minimum of $1,000 gets you into BlackRock's Impact U.S. Equity and Impact Bond funds, while upstart Aspiration Redwood Fund requires just a $100 outlay, though some may be disappointed to find both are packed with blue chips, unlike Swell's small-cap-heavy portfolios.

Then there are new-breed robo-advisors Wealthfront and Betterment, which charge annual advisory fees starting at 0.25% and feature minimums of $500 and $0, respectively; both introduced socially focused options of their own over the summer. Brokerage outfit FOLIOfn beefed up its impact-investing reach last year by acquiring First Affirmative Financial Network, which specializes in social outlays. The aforementioned Motif does offer customizable portfolios including impact options like Sustainable Planet, Fair Labor and Good Corporate Behavior, and charges a monthly fee of $9.95 with a $1,000 minimum.

Fanger differentiates his offering by dealing only in impact investing. Unlike his robo rivals, he doesn't use algorithms to generate portfolios; Swell's team works to create and update them as companies' contexts change (Whole Foods getting gobbled up by Amazon, for example). It also offers customers more flexibility than a traditional actively managed fund (if you think Tesla is overvalued, or if you don't want the nuclear exposure of Actuant, you can simply remove them from your Swell portfolio).

But as with proverbial story stocks on Wall Street, Swell's success, in the midst of an impact-investing gold rush, may hinge on the aspects of its pitch that can't be quantified—like that rural farmer who uses Xylem's pumps to save countless hours that would otherwise be spent trekking back and forth to distant wells. Assures Fanger: "Somebody working on their farm will be able to get that water."

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# CYBERSECURITY 2018 | A Year In Preview

**BY DEREK MANKY, GLOBAL SECURITY STRATEGIST, FORTINET FORTIGUARD LABS**

We have created a global society of universal connectivity, where individuals and organizations expect to have instant access to data and services across a variety of interconnected devices. It's transforming our society. And it's creating a rich vein of valuable information, goods and computing resources for our adversaries to extract, extort and exploit.

Between ransomware attacks, remote mobile phone hacks and massive consumer data breaches, it's very difficult to name a part of our technological framework that isn't under assault. The current generation of cybercriminal is organized, motivated and well-funded, uncovering weaknesses and infiltrating systems at tremendous speed and scale. The cybercriminal marketplace has become adept at adopting the latest advances in technology, such as automation and artificial intelligence (AI) to create more effective attacks. And as mobile, cloud and the Internet of Things (IoT) continue to grow, new disruptive opportunities emerge for cybercriminals as the attack surface grows.

Well-known attacks and breaches from 2017 foreshadow the massive disruptions and economic impacts possible in our near future, resulting from the ransom and disruption of commercial services or intellectual property. The imminent risks will require a coordinated effort of both human and machine intelligence to combat them. Here's a look at what you need to know now to be prepared for 2018.

### Cybercrime Continues To Institutionalize

Hacking is big business, on both an individual and state-actor level. There's even a way to hire out for malware, from a growing number of so-called "crime-as-a-service" outfits that will validate exploits or deploy botnets against targets for a fee. Much like legitimate institutions, these criminal networks have started to take on characteristics of a long-term institution. They deploy (or hijack) high-power distributed computing clusters to perform research, experiment in sandbox settings and launch attacks. There is a real risk of the cybercrime economy disrupting the emerging digital economy.

### Basic Cybersecurity Hygiene Failures Continue

Adaptive, intelligent, hive-minded malware (see the Artificial Intelligence sidebar) is a serious next-generation threat that must be taken seriously. However, the root cause of many of the most significant and damaging breaches is the same today as it was at the origins of the Internet: a fundamental failure to practice good cybersecurity hygiene. Poor passwords, unprioritized patch scheduling, end-of-life systems and improper user permissions continue to open the door to an unacceptable number of opportunistic attacks.

The mass spread of IoT devices, which tend to have wide-open access profiles by default and are often shipped to the wild with no hope of ever receiving manufacturer security updates, will further open doors to attack. This means doing more than committing to sound patching discipline and policy revision. Organizations must dedicate themselves to finding ways to purge unsustainably insecure devices whenever possible, and rigorously segment and protect those that cannot be removed.

## Artificial Intelligence: Friend And Foe

Artificial intelligence has a huge role to play on both sides of the cybersecurity equation. The industry faces a protracted and severe skill shortage. AI can perform both rote management tasks more quickly and efficiently, without getting bored or distracted. It can also learn new and better security practices from the evolving digital framework it inhabits. In our world where connectivity has far outpaced security, intelligent agents that can heal and defend themselves are invaluable allies. Machine learning has already proven effective in sandbox environments at exploring potential vulnerabilities and devising defenses.

But cybercriminals are developing their own AI, and are unlikely to do so ethically. In legitimate lab settings, AI can be carefully monitored and trained for years to be predictable and reliable. Cybercriminals are less likely to avoid these potentially dangerous side effects, favoring speed over safety. Malware rings resembling intelligent swarms of angry bees are already starting to appear, weaponizing IoT devices against their owners.

It is the rise of the *hive*. Today, the term *botnet* refers to automated, zombie-like devices that are remotely programmed to target other vulnerable systems with malware, or to infect them via blunt-force attacks, such as denial of service. Botnets are dangerous and account for billions of unauthorized network communications every quarter. The *hivenet*, however, is much more frightening because each unit of the hivenet, a *swarmbot*, will itself be powered by AI. Swarmbots will be able to make autonomous decisions without relying on a botnet herder and join together into larger autonomous thinking networks. The potential for hivenet damage is substantially greater than anything we have faced from already-potent botnets.

That's why one of the most serious threats we face in 2018 and beyond is malware with the capability to learn and grow through its own successes. Polymorphic malware with pre-coded algorithms designed to subvert countermeasures and screens is already a reality. But that approach simply generates millions of slight variations on the same theme. Next-gen AI-generated malware will be aware and capable of adapting itself.

Instead of simply following a set of pre-programmed instructions, it will select targets of opportunity, assess their weaknesses, develop a plan of attack and cover its tracks. And it will make intelligent decisions about what information to exfiltrate, and when. In short, tomorrow's AI attacker will behave with the autonomy and inventiveness of a highly skilled and motivated human attacker, but at frighteningly higher speeds.

Hostile AI will be extremely dedicated to exploration, finding weaknesses at every possible crease in the network perimeter. Without any need for operator intervention, it will be able to fully map targets, design and deploy exploits, and even collect (and spend) ransoms.

These are not fever dreams. These are the clear and demonstrable goals of the cybercriminal branch of artificial intelligence research. Unsupervised, unfettered AI poses a massive threat to data security and infrastructure integrity.

We are at a very delicate moment in our transformation to a digital society and economy. Humans and machines must work together to prepare for the next level of sophistication.

## Activities Performed By FortiGuard Labs (Based On Q3 2017)


### Mobile Attacks Will Intensify

Mobile devices are small, powerful, always on and always connected. They have access to some of the deepest details of our personal and professional lives. They have sensors that can take detailed records of our every move. And that's why they are the target of more than 1 in every 10 global cyber-security attacks. Designing and deploying remote jailbreaks that can completely subvert a mobile phone to an attacker's control is big business, and it's getting bigger.

### Distributed Infrastructure Intensifies Risk

In a recent Fortinet Threat Landscape Report, the median organization responding to the survey used over 60 cloud solutions, roughly divided between software and infrastructure clouds. With this complexity comes increased risk. When organizations rely on dozens of different providers, they provide dozens of potential attack vectors. There were compelling business cases for embracing such a distributed and highly elastic infrastructure, but we are seeing the consequence today. It is extremely difficult to gain complete visibility into and control over every potential security weak point.

And distributing network resources has not distributed risk. In fact, we see the exact opposite: Global resources are more closely interconnected than ever. This phenomenon, called network hyperconvergence, means that we tend to see major attacks span multiple industries and regions all at once.

### Encryption Is Confounding Early Warning Systems

There is a growing push for end-to-end encryption, particularly through HTTPS. We saw total HTTPS traffic eclipse in-the-clear HTTP in 2017 at 55 percent and climbing. All that encrypted traffic comes at a cost for threat monitoring and detection. Encrypted traffic is not inherently safe, it is merely obscured from prying eyes. And that can include the perimeter defenses meant to scan traffic and identify malicious activity. Because it is more difficult for automated threat detection to scan encrypted traffic, attackers can actually slip past some screens by including malware in HTTPS sessions.

The end-to-end encryption trend is unlikely to reverse for other valid reasons, so organizations will need to continue to dedicate resources both to inspecting encrypted traffic when feasible and to finding ways to prop up other areas of protection where perimeter scans are less effective.

### Ransomware Will Continue To Follow The Money And Expose Deep Vulnerabilities

The cost of disruption from high-profile ransomware attacks has significantly outstripped the amount victims have paid; for the most part, those hit by attacks like WannaCry have not paid their malefactors. The black hats carefully chose targets that deliver crucial services, like healthcare, financial services and critical infrastructure, hoping that the need to keep the lights on would force victims to capitulate.

Expect them to double down on this strategy and go after cloud services. Getting the upper hand on a major cloud infrastructure provider would represent tremendous leverage, potentially affecting service for millions and millions of users and undermining millions of dollars in daily revenue. It's happening already. Recently, a South Korean hosting provider paid a $1 million ransom to restore services.

> "Ongoing attacks against critical infrastructure providers will expose the fact that these networks are among the most vulnerable in the world."
>
> —Derek Manky

Ongoing attacks against critical infrastructure providers will expose the fact that these networks are among the most vulnerable in the world. Continuity of service and economic disruption will be widespread unless these organizations accelerate their adoption of advanced security systems.

### A Clear Need For A Security Fabric

Considered individually and collectively, the scope and severity of the threat landscape underscores the need for a new approach to cybersecurity. We have no shortage of monitors, alarms, workarounds and procedures in our defense tool kits. What we need now is a more active and coordinated way to unify them at speed and scale as a cohesive security fabric.

An integrated, collaborative and highly adaptive security fabric will put AI and self-learning to work on effective and autonomous responses to attacks. It will combine technology, configuration, intelligence and judgment to perform basic security functions and day-to-day tasks currently being performed by workers. This will enable those individuals to focus on creating security principles and practices relevant to the highly organized opponents we face. And it will transition us away from organic and accidental network architectures toward a new design capable of standing up against intense, relentless, sustained attack.

Our adversaries are adopting automated and scripted techniques, so we need to raise their price of attacking to combat today's new normal. The time to watch and react is past. In 2018, cybersecurity must become proactive. ■

MONEY MANAGERS

# Green Is Good, for Returns

DO-GOODERS WANT TO INVEST SUSTAINABLY TO SAVE THE WORLD. KARINA FUNK DOES IT TO MAKE MONEY.

**BY JEFF KAUFLIN**

As Karina Funk sips a can of raspberry seltzer, she extols the virtues of Ball Corp. of Broomfield, Colorado, which manufactures 43% of the aluminum beverage cans made in North America. The portfolio manager has a big stake in Ball, and she thinks its approach to environmental sustainability gives it a competitive advantage. "They design the top so that it has structural integrity, using less material—that's a cost advantage," she says between spoonfuls of lentil soup. She explains that aluminum is easier and cheaper to recycle than plastic or glass, partly because much less water is used. "Ball is growing in Brazil and helping some of those regions meet their sustainability goals in the shift from glass to cans."

Funk is in charge of the $1.1 billion devoted to sustainable investing strategies at the Baltimore money manager Brown Advisory. The 45-year-old vegetarian, who works in the firm's Boston office, cares deeply about the environment—she rides her bike 7 miles to work every day, even in the winter. She and her husband own just one car for their family of four, and they use it only twice a month. Funk manages Brown Advisory's Sustainable Growth Fund with her Prius-driving comanager, David Powell. They're both passionate about sustainability, but when it comes to their fund, making a positive impact on the environment is secondary. "Sustainability is a means, not an end in and of itself," Funk says. "Our end goal is performance. We achieve that by finding fundamentally strong companies using sustainability strategies to get even better." Since its 2009 inception, Brown's Large-Cap Sustainable Growth strategy, which holds 34 stocks, has returned 15.6% net of fees annually, compared with 14.5% for the Russell 1000 Growth Index. Although it's a small piece of Brown Advisory's $60 billion in assets, it has ballooned 50% since January.

Funk grew up in Indiana but spent many summers in her mom's native Bolivia. She was inspired by the beauty of the Andes but disturbed when she saw open-pit mines dribbling toxic runoff. She graduated from Purdue with a degree in chemical engineering and then spent a frustrating year working as an environmental engineer. "I was the last person any shift manager or business leader wanted to see or spend time with. I was nothing but a cost sink," she said in a 2015 TEDx Talk. "They just wanted

JAMEL TOPPIN FOR FORBES

Brown Advisory's Karina Funk: Being green is no longer a cost sink.


Sustainable Growth's comanager David Powell: Composting alone won't cut it.

Environmental, social and governance (ESG) investing means different things to different money managers *(see story, p. 100)*. Many screen out entire industries like fossil fuels and tobacco, and some focus on corporate diversity. Funk and Powell concentrate on environmental and economic development aspects, essentially the "E" and the "S." Although they don't own any tobacco, alcohol, gaming, weapon or fossil-fuel companies, they don't have a rule against investing in them.

One of the fund's biggest winners has been Ecolab, which makes, among other things, dish-cleaning chemicals for restaurants. It has invested heavily in research and development to reduce the amount of water and energy needed to clean dishes. Its customers have noticed. The fund first invested in Ecolab in 2010 at $47. Today it trades around $130.

American Tower first attracted Funk for its barriers to entry. "I was salivating at their business model," she says. "They own and operate cell towers. They have huge cash flow and a highly visible revenue stream because when a carrier like AT&T or Verizon needs coverage, there's not a whole lot of choice. People don't want more than one tower in an area."

Funk started to seriously consider investing when an analyst discovered that American Tower claimed to exceed EPA standards. She says she asked senior executives why, and they explained it was helpful in getting permits. They also said they were investing in renewable energy like solar so that they could reliably deliver cell service in emerging markets.

Funk and Powell call a company's alignment of business and sustainability strategy its "sustainable business advantage." In order to invest, they need to be convinced the advantage will lead to revenue growth, cost reduction or improved brand value.

me to measure their emissions, rubber-stamp compliance and regulations and get the heck out." She landed at MIT in 1995 to get master's degrees in both civil and environmental engineering, and technology and policy. After a few environmental-related stints in consulting, venture capital and institutional investing, in 2007 she became an analyst at Winslow Management, a green-investment specialist. Brown Advisory, formerly a part of the investment bank Alex. Brown & Sons, acquired Winslow in 2009.

Funk and Powell's approach is to find companies that fit three criteria: strong growth prospects, attractive valuation and a proactive investment in sustainability strategies—not just to reduce risks and protect against phenomena like climate change but to seize economic opportunity. Funk says some of the top U.S. companies have told her, "Here's our sustainability report. Look how much renewable energy we use." She typically responds, "Okay, why does your CFO care about that?" If they don't have an answer—if the company isn't making the connection between long-term sustainability strategy and long-term business strategy—she doesn't invest.

Some otherwise attractive investments don't make the cut. Powell thinks Sherwin-Williams is a "fantastic paint company," but its sustainability report, which mentions things like composting in the break room, doesn't appear to make a difference to its bottom line. Conversely, Tesla's disappointing cash flow and Funk's doubts about its scalability have kept the otherwise environmentally friendly stock out of their portfolio. A top holding, Alphabet, has data centers that are 50% more energy-efficient than its peers' because it optimizes the way data is stored and accessed. Facebook is also a top holding, despite recent research showing a link between usage and declining mental health. "No investment is pristine," Funk says. She cites the global efficiencies generated by Amazon's fast-growing Web services as a reason to own the stock, despite its workplace transgressions. What about gender and ethnic diversity? Funk is forced to ignore it because screening for companies with 20% or 30% female board representation would leave her with too few options.

For investors, the message is clear: Check the returns, then pick your poison. F

JAMEL TOPPIN FOR FORBES

FUNDS

# Portfolio Placebos

## THESE DAYS, PEOPLE WANT TO BELIEVE THEIR INVESTMENTS ARE SAVING THE PLANET. FUND MARKETERS ARE MORE THAN HAPPY TO OBLIGE.

**BY JEFF KAUFLIN**

If you listen to the marketing hype, assets devoted to ESG—industry jargon for investments sensitive to environmental, social and governance issues—account for some $8.7 trillion, double the amount just five years ago. That's great news for the planet, right? Not so fast. Much of the growth is a matter of semantics. What were once run-of-the-mill value or growth funds are being reclassified as sustainable or ESG-friendly.

Take, for example, American Century's $227 million Sustainable Equity Fund. In 2004 it launched with the name Fundamental Equity, focusing on large companies. Last year the frequent underperformer was renamed to meet growing investor demand for sustainable investing. Says portfolio manager Joe Reiland, "We all want to preserve the environment and do well and do good."

Even more rampant than shape-shifting funds are those with liberal definitions of what qualifies as ESG. Take the two largest asset managers in the world, BlackRock and Vanguard. Both have ESG funds with holdings that defy what many might consider socially responsible. BlackRock's MSCI KLD 400 Social ETF holds McDonald's, ConocoPhillips and Occidental Petroleum, even though McDonald's has struggled with ongoing labor disputes and many ESG funds steer clear of companies that hold fossil-fuel reserves. BlackRock declined to comment on specific holdings.

Vanguard's SRI (socially responsible investing) European Stock Fund counts British American Tobacco and Royal Dutch Shell as top holdings. "That's terrible.... a travesty," says Jerome Dodson, manager of $4.9 billion (assets) Parnassus Endeavor, a strict ESG adherent with a stellar 12.4% ten-year average annual return. Mark Fitzgerald, Vanguard's head of equity products in Europe, says the fund uses higher-level screening criteria like respect for human rights instead of taking a more granular approach.

American Century's rechristened Sustainable Equity fund overhauled its portfolio using data from MSCI's sustainable-investment research arm and Sustainalytics. It sold stocks like ExxonMobil. "It's not really a leader amongst peers in terms of climate change," says Reiland. Yet it held on to ConocoPhillips and bought Marathon Petroleum. The fund also kept cigarette merchant Philip Morris International because, Reiland says, the company is promoting e-cigarettes. Real reason: "Every financial study showed we would have better performance including Philip Morris," he says.

Ave Maria, a $2 billion money manager, screens out companies that don't comply with the values of the Catholic Church—firms that contribute to causes affiliated with abortion, and even hotels, because they rent adult films. But some sin stocks have Ave Maria's blessing. Its Rising Dividend Fund owns Hexcel, which makes fighter jet parts, and liquor maker Diageo. "Jesus' first miracle was turning water into wine," says portfolio manager Brian Milligan.

According to Yale professor and sustainability expert Daniel Esty, part of the problem is flawed data and a lack of standardization. For greenhouse-gas emissions, some companies report only the emissions of their own facilities, while others add in their supply chain's emissions. Few people understand this nuance, so those that report more diligently look worse.

Some funds like CGM Focus get high rankings for sustainability even though it's not their mission at all. Given the surge in interest in ESG, don't be surprised if "sustainability" soon joins P/E and EPS growth as a key fundamental measure of a company's worth. F

### SOCIALLY IRRESPONSIBLE?

| ESG FUND NAME | AUM ($MIL)[1] | EXP. RATIO | YTD RETURN[2] | CONTROVERSIAL HOLDINGS |
|---|---|---|---|---|
| BLACKROCK ISHARES MSCI KLD 400 SOCIAL ETF | $959 | 0.50% | 19% | MCDONALD'S (LABOR DISPUTES); FOSSIL-FUEL MERCHANTS CONOCOPHILLIPS, OCCIDENTAL PETROLEUM AND HESS. |
| AVE MARIA RISING DIVIDEND FUND | $933 | 0.93% | 15% | LIQUOR GIANT DIAGEO, DEFENSE SUPPLIER HEXCEL AND EXXONMOBIL. |
| VANGUARD SRI EUROPEAN STOCK FUND | $721 | 0.35% | 12% | BRITISH AMERICAN TOBACCO AND ROYAL DUTCH SHELL. |
| AMERICAN CENTURY SUSTAINABLE EQUITY | $227 | 1.00% | 23% | PHILIP MORRIS INTERNATIONAL, CONOCOPHILLIPS; ALSO, AMERICAN CENTURY REPEATEDLY VOTES AGAINST SUSTAINABILITY DISCLOSURES. |
| STATE STREET S&P FOSSIL FUEL RESERVES FREE ETF | $188 | 0.25% | 21% | CHANGED NAME TO ADD THE WORD "RESERVES" IN 2016 TO REFLECT HOLDINGS LIKE HALLIBURTON AND SCHLUMBERGER. |
| WASHINGTON MUTUAL INVESTORS FUND | $97 | 0.58% | 17% | "THE BLUEST OF BLUE CHIPS." SHUNS SMOKES, BOOZE. HOLDS GMO AND PESTICIDE PUSHER MONSANTO, PLUS LOCKHEED MARTIN, EXXONMOBIL. |

[1]ASSETS UNDER MANAGEMENT. [2]NET OF FEES.


COMO UMA CANGGU

# Around the World in '18 Ways

From Bogotá to Bali, the hottest new hotels and resorts for 2018.

BY ANN ABEL

*Thanks to ambitious new hotels opening around the world, 2018 is shaping up to be another great year to travel. Whether one-off boutiques or strategic brand expansions that were years in the making, these hotels share a close attention to detail and design and a determination to redefine the meaning of luxury. Big brands are making big bets on up-and-coming cities like Warsaw and Bogotá, while upstart indies are offering new takes on destinations we thought we knew. Here's what's on the map for 2018.*

ASIA

## Capella Shanghai, Jian Ye Li

Now in soft opening, the latest hotel from the high-luxury Capella brand is dripping with Shanghai-in-the-'30s glamour. It occupies a 1930s estate built in the *shikumen* architectural style, with elaborately carved *matou* gable walls and a series of narrow alleyways, inner courtyards and embellished stone arches over the gates and doorways. French star chef Pierre Gagnaire is behind the restaurant and boulangerie.

## COMO Uma Canggu, Bali

Christina Ong's third hotel on the island will bring her understated approach to luxury to Bali's less-er-traveled south coast in February. The architecture is modern Asian in style, and ground-floor rooms have direct access to the sinuous swimming pool from their terraces, while upper floors have sparkling sea views.


CAPELLA SHANGHAI, JIAN YE LI

EUROPE

## Vista Palazzo Lago di Como, Italy

This intimate hotel will be the first five-star property right in the city of Como, combining stunning views of the lake with easy access to restaurants and shops when it opens in June. Housed in a former palazzo, it has 18 rooms and suites and a spectacular rooftop "infinity bar" with a counter overlooking the water.

## Four Seasons Hotel Megève, France

A modern interpretation of an alpine chalet, Four Seasons' first European mountain hotel has 55 guest rooms and suites, and five restaurants and lounges, including a new incarnation of the Michelin two-star restaurant Le 1920. In addition to 235 groomed snow runs in winter, guests have preferred access to the Mont d'Arbois Golf Club close by.


VISTA PALAZZO LAGO DI COMO

## Royal Lancaster London

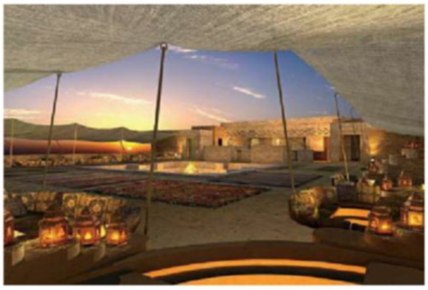
This midcentury icon in Hyde Park celebrated its 50th birthday with a $105 million renovation that was completed in November. All 411 rooms and suites emerged with a new take on the era in which the hotel was born—low silhouettes, clean lines and the occasional groovy color. The fabulous views of the London skyline through the walls of windows haven't changed.

## Raffles Europejski Warsaw

Some say eastern Europe is the new western Europe. The Asian brand Raffles seems to be making that bet, with a significant restoration of the Hotel Europejski, once one of the most luxurious hotels in 19th-century Russia. Local conservationists were heavily involved with the Polish architects and designers as they reimagined the 106 guest rooms and suites. The restaurant will have an outdoor terrace and modern Polish menu, while the patisserie will evoke the past.

AFRICA

## Anantara Tozeur, Tunisia



Decades after rising to fame as a location for the original *Star Wars,* this southwestern city—a hub for Saharan adventures—is finally getting a luxury resort. Opening in the summer, the property will have 93 guest rooms and villas, some with private pools. There will be a sophisticated spa, an all-day dining room showcasing Tunisian cuisine and a Thai restaurant, in honor of Anantara's origins in Southeast Asia.

SILVERSANDS

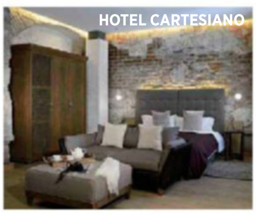
LATIN AMERICA/ CARIBBEAN

## Silversands Grenada

The first major resort to open on Grand Anse beach in 25 years, Silversands will bring a new level of luxury to the southern island when it opens in March. Along with 43 suites whose decor makes heavy use of soothing natural materials, it will have a 100-meter swimming pool, the longest in the Caribbean. Guests and the eventual buyers of the nine residential villas will share a spa retreat, a beach club and two globally inspired restaurants.

## Hotel Cartesiano, Puebla, Mexico

This historic city has long been esteemed for its rich history and colonial architecture but until now has been lacking in equally charming places to stay. That changed in November with the opening of



HOTEL CARTESIANO

Hotel Cartesiano, with 78 rooms and suites in three 18th-century buildings a stone's throw from the main city square and many historical sites. The design is woven with contemporary Mexican art and arresting architectural elements like sections of beautifully decayed original brickwork.

## Zadún, a Ritz-Carlton Reserve Los Cabos, Mexico

Cabo is getting a new infusion of grown-up luxury via the latest outpost of Ritz-Carlton's highest-of-high-end hospitality. On the coast of San José del Cabo, the resort has 115 elegant villas that blend local culture and heritage—many with private pools—two championship golf courses and a desert botanical park.

SOUTH AMERICA

## Grand Hyatt Bogotá

Hyatt's first luxury hotel in one of South America's new capitals of cool will bring Grand Hyatt-brand hallmarks—thoughtful design, attentive service—and reflect the vibrant energy of this budding metropolis. In the heart of the prestigious new Ciudad Empresarial Sarmiento Angulo development, the hotel will have 373 rooms with floor-to-ceiling windows, two signature restaurants and an expansive spa.

UNITED STATES

## The NoMad Los Angeles

The latest addition to DTLA's hotel boom adapts its New York sibling's haute-cool vibe to the more laid-back West Coast. Opening in January in the historic Giannini building (once the Bank of Italy), the NoMad has 241 Jacques Garcia-designed rooms, casual and formal restaurants, and an all-day Italian-inspired cafe—all run by Daniel Humm and Will Guidara of Eleven Madison Park and the NoMad New York.

## Perry Lane Hotel, Savannah, Georgia

Bridging the antebellum past with the dynamic present, this hotel aims to offer modern Southern hospitality at its best. On the main thoroughfare of the historic downtown, the Perry Lane will have 167 refined residential guest rooms when it opens this spring. The development team spent five years studying Savannah, so they've figured out how to transform all that history into a 21st-century hotel.

## Rosewood Miramar Beach Montecito, California

The site of the former Miramar by the Sea Hotel in Santa Barbara County—a 100-year-old landmark in the local community—will get new life this summer when Rosewood opens this property. Spread over nearly 16 acres of beachfront land, it will contain 124 guest rooms and 37 suites, many of them in single-story bungalows, which will make it one of the first resorts in the area to have accommodations right by the sand. And everyone gets the view from the oceanfront bar and restaurant and the private beach club.

FINAL THOUGHT *"The man who is cocksure that he has arrived is ready for the return journey."* —B.C. FORBES

ForbesCustom

# FIVE STAR AWARD WINNERS

## You Need to Know

### FIVE STAR WEALTH MANAGERS » FIVE STAR INVESTMENT PROFESSIONALS

You work hard and want your money to work hard for you! You're likely seeking solid investments and financial strategies that fit your family and your situation. These days, finding the right wealth manager is an integral part of securing one's financial freedom and well-being. But where should you turn to find the adviser who can start working for you?

Five Star Professional employed a rigorous research process to identify the Five Star Wealth Manager award winners in cities across the U.S. Award-winning professionals were carefully selected from among thousands of wealth managers for their knowledge, service and experience (see list and disclosure for full list of cities covered).

Winners featured here represent some of the most dedicated wealth managers, each committed to pursuing professional excellence and providing exceptional service to their clients.

Five Star Professional identified award candidates based on industry data nominations received from industry firms and individuals (self-nominations are not accepted). Only candidates who satisfied 10 objective eligibility and evaluation criteria have been named Five Star Wealth Managers.

For the full lists of Five Star Wealth Managers and an overview of the research methodology, visit fivestarprofessional.com

### Five Star Wealth Manager Criteria

The Five Star Wealth Manager award is presented to wealth managers who satisfy 10 objective eligibility and evaluation criteria associated with outstanding work.

**Eligibility Criteria – Required**

1. Credentialed as an investment advisory representative or a registered investment advisor. 2. Actively employed as a credentialed professional in the financial services industry for a minimum of five years. 3. Favorable regulatory and complaint history review. 4. Fulfilled their firm review based on internal firm standards. 5. Accepting new clients.

**Evaluation Criteria - Considered**

6. One-year client retention rate. 7. Five-year client retention rate. 8. Non-institutional discretionary and/or non-discretionary client assets administered. 9. Number of client households served. 10. Education and professional designations.

### RESEARCH DISCLOSURES

In order to consider a broad population of high-quality wealth managers and investment professionals, award candidates are identified by one of three sources: firm nomination, peer nomination or prequalification based on industry standing. Self-nominations are not accepted. Award candidates were identified using internal and external research data. Candidates do not pay a fee to be considered or placed on the final lists of Five Star Wealth Managers or Five Star Investment Professionals.

Although this list is a useful tool for anyone looking for help in managing their financial world or implementing aspects of their financial strategies, it should not be considered exhaustive. Undoubtedly, there are many excellent professionals who, for one reason or another, are not on this year's lists.

- The Five Star award is not indicative of a professional's future performance.
- Wealth managers may or may not use discretion in their practice and therefore may not manage their clients' assets.
- The inclusion of a professional on the Five Star Wealth Manager list or the Five Star Investment Professional list should not be construed as an endorsement of the professional by Five Star Professional or *Forbes*.
- Working with a Five Star Wealth Manager, Five Star Investment Professional or any professional is no guarantee as to future investment success, nor is there any guarantee that the selected professionals will be awarded this accomplishment by Five Star Professional in the future.
- Five Star Professional is not an advisory firm, and the content of this article should not be considered financial advice. For more information on the Five Star Wealth Manager or Five Star Investment Professional award programs, research and selection criteria, go to www.fivestarprofessional.com/research.

### Five Star Investment Professional Criteria

Five Star Professional's Investment Professional award goes to outstanding accountants, estate planning attorneys, insurance agents and select others in the financial industry. Award candidates must satisfy the following criteria to be named a Five Star Investment Professional:

**Eligibility Criteria – Required**

1.Credentialed with appropriate state or industry licensures. 2. Actively employed as a credentialed professional in the financial services industry for a minimum of five years. 3. Favorable regulatory and complaint history review.
4. Accepting new clients.

**Evaluation Criteria – Considered**

5. One-year client retention rate. 6. Five-year client retention rate. 7. Number of client households served. 8. Recent personal production and performance (industry specific criteria). 9. Education and professional designations/industry and board certifications. 10. Pro Bono and community service work.

FIVE STAR PROFESSIONAL

# FIVE STAR AWARD WINNERS

## Gary Allen Harris

President and CEO

Gary Harris is president and CEO of the Gary Harris Private Client Group, Inc., a wealth management and financial advisory firm and the creator of Cycle-Logical Wealth Management System "Cycle Systems" a proprietary wealth management system his firm markets exclusively.

An esteemed wealth and investment manager with more than 25 years of experience, Harris meets with legislators on Capitol Hill regularly to discuss the insurance industry as an ambassador for the Association for Advanced Life Underwriting (AALU). Harris has also given financial talks at the Black Women's Expo, the National Association of Realtors and as a financial correspondent on the Jerry Rose Show.

GARY HARRIS PRIVATE CLIENT GROUP, INC.

1 South Wacker Drive, Suite 200 • Chicago, IL 60606
Phone: 800-558-9769 • gary@ghprivateclientgroup.com • www.ghprivateclientgroup.com

5 YEAR WINNER

Left to right: Five-year winner Matt Meyers, Sr.; Matthew Meyers, Jr.

## Matt Meyers

CRPC®, President

CROSSROADS Financial Services

10900 Stonelake Boulevard, Suite B-150
Austin, TX 78759 • Phone: 800-356-2175
matt@crfinancialservices.com • CRFinancialServices.

- Investment management and retirement income planning
- Estate planning and generational wealth transfer

Planning for your future is not just a fiscal decision, but an emotional one as well. We take the time to listen and comprehend your goals, allowing us to guide you toward the optimum choices based on your needs. As always, we stand for integrity, honesty and stability.

Investment adviser representative and registered representative of, and securities and investment advisory services offered through, Voya Financial Advisors, Inc., member SIPC. Crossroads Financial Services is not a subsidiary of nor controlled by Voya Financial Advisors. 33786531_1119D.

3 YEAR WINNER

Seated on right: Three-year winner Michael D. Ruggiero

## Michael D. Ruggiero

Financial Advisor, MBA

Ameriprise Financial

15255 South 94th Avenue, Suite 405
Orland Park, IL 60462-3888
Office: 708-226-3400
michael.d.ruggiero@ampf.com
ameripriseadvisors.com/michael.d.ruggiero

For over 10 years Michael has been successfully helping his clients with estate, business succession and retirement distribution planning. Michael is diligent about helping his clients find financial independence through establishing clear goals and discipline. Five Star Wealth Manager, 2013, 2014 and 2017.

Ameriprise Financial and its affiliates do not offer tax or legal advice. Consumers should consult with their tax advisor or attorney regarding their specific situation. Investors should conduct their own evaluation of a financial professional as working with a financial advisor is not a guarantee of future financial success.
Ameriprise Financial Services, Inc., Member FINRA and SIPC.


3 YEAR WINNER

Trusted and Informed Advice

## Mark Greenberg

Founder, JD, CFP®

- Ranked among the top 9% of wealth managers in the San Francisco Bay area as a Five Star Wealth Manager award winner
- Custom retirement and investment strategies
- Independent — we work for you
- Three-time Five Star Wealth Manager award winner

Our client's retirement security and investment success are our top priorities. Trusted for decades, we create highly effective plans for your wealth and security. Join us!

**Wealth & Tax Planners**

3021 Citrus Circle, Ste. 200 • Walnut Creek, CA 94598
Phone: 925-938-4300
info@wtplanners.com • www.wtplanners.com

Investment advisory services offered through Wealth & Tax Planners, a Registered Investment Adviser. Securities offered through Mutual Securities, Inc., member SIPC/FINRA. Mutual Securities, Inc. and Wealth & Tax Planners are not affiliated companies. CA Ins. Lic. 0675661.

4 YEAR WINNER

The Wealth Management Approach for Today, Tomorrow, and Beyond…

## Nancy A. Effert

President and Financial Advisor

- Straightforward, unbiased advice and fiduciary approach
- Goal-based financial strategies
- Project-based or ongoing, fee-based relationship

You're successful, the best at what you do, but sometimes the right advice can make all the difference. Anchored in active listening, trust and knowledge, we focus on you and your unique situation — because the potential success of a plan, strategy or advisory relationship isn't only about the dollars, but also the effect it has on your life, family and legacy.

**Effert Financial Solutions, Inc.**

303 North Northwest Highway, Suite 204 • Barrington, IL 60010
Phone: 815-444-9560 • Nancy@EffertFinancialSolutions.com
www.EffertFinancialSolutions.com

Advisory Services offered through Partnervest Advisory Services LLC, a Registered Investment Advisor.

6 YEAR WINNER

## Timothy P. Gelinas

CAS®, CFS®, CSA, President – Senior Financial Planning, LLC

With over 19 years of experience, Tim has been diligently meeting the needs of his clients. He and his team specialize in helping retirees and those about to retire preserve and protect their assets. Tim's personalized service has won him numerous awards, including the NAIFA Quality Award for 2013 – 2016. He has been a member of the Fidelity Advisor Council since 2013.

Helping Protect What You've Worked for All Your Life

Sr. Senior Financial Planning, LLC

2551 Roswell Road Northeast, Suite 209 • Marietta, GA 30062
Office: 770-973-5220 • Fax: 770-973-5171
tgelinas@sfp.us.com • www.srfinancialplanning.com

Securities and Investment Advisory Services offered through The Leaders Group, Inc. Securities Dealer, Member FINRA/SIPC; TLG Advisors, Inc. Registered Investment Advisor; 26 West Dry Creek Circle, Suite 575, Littleton, CO 80120, 303-797-9080.

The Five Star Wealth Manager award, administered by Crescendo Business Services, LLC (dba Five Star Professional), is based on 10 objective criteria. Eligibility criteria – required: 1. Credentialed as a registered investment adviser or a registered investment adviser representative; 2. Actively licensed as a registered investment adviser or as a principal of a registered investment adviser firm for a minimum of 5 years; 3. Favorable regulatory and complaint history review (As defined by Five Star Professional, the wealth manager has not; A. Been subject to a regulatory action that resulted in a license being suspended or revoked, or payment of a fine; B. Had more than a total of three settled or pending complaints filed against them and/or a total of five settled, pending, dismissed or denied complaints with any regulatory authority or Five Star Professional's consumer complaint process. Unfavorable feedback may have been discovered through a check of complaints registered with a regulatory authority or complaints registered through Five Star Professional's consumer complaint process; feedback may not be representative of any one client's experience; C. Individually contributed to a financial settlement of a customer complaint; D. Filed for personal bankruptcy within the past 11 years; E. Been terminated from a financial services firm within the past 11 years; F. Been convicted of a felony); 4. Fulfilled their firm review based on internal standards; 5. Accepting new clients. Evaluation criteria – considered: 6. One-year client retention rate; 7. Five-year client retention rate; 8. Non-institutional discretionary and/or non-discretionary client assets administered; 9. Number of client households served; 10. Education and professional designations. Wealth managers do not pay a fee to be considered or placed on the final list of Five Star Wealth Managers. Award does not evaluate quality of services provided to clients. Once awarded, wealth managers may purchase additional profile ad space or promotional products. The Five Star award is not indicative of the wealth manager's future performance. Wealth managers may or may not use discretion in their practice and therefore may not manage their client's assets. The inclusion of a wealth manager on the Five Star Wealth Manager list should not be construed as an endorsement of the wealth manager by Five Star Professional or this publication. Working with a Five Star Wealth Manager or any wealth manager is no guarantee as to future investment success, nor is there any guarantee that the selected wealth managers will be awarded this accomplishment by Five Star Professional in the future. For more information on the Five Star award and the research/selection methodology, go to fivestarprofessional.com. 2,378 Atlanta wealth managers were considered for the award; 301 (13 percent of candidates) were named 2017 Five Star Wealth Managers. 1,431 Austin, San Antonio and Central Texas-region wealth managers were considered for the award; 207 (14 percent of candidates) were named 2017 Five Star Wealth Managers. 3,781 Chicago wealth managers were considered for the award. 438 (12 of candidates) were named 2017 Five Star Wealth Managers. 1,049 San Francisco East Bay wealth managers were considered for the award; 95 (9 percent of candidates) were named 2017 Five Star Wealth Managers.

# FIVE STAR AWARD WINNERS


Left to right: Six-year winners Tom Baumler, CFP®, and Pam Dumonceau

## United Captial Financial Advisers

5655 South Yosemite Street, Suite 450
Greenwood Village, CO 80111
1120 North Causeway Boulevard, Suite 4
Mandeville, LA 70471
Phone: 303-751-8859

- Tom Baumler, CFP®
- Erwin Buck, CFP®
- Pam Dumonceau
- Porter Landreth
- Nancy Rinker

- Personalized partnering with your adviser
- Comprehensive retirement, investment and tax strategy*
- Independent, objective advice

Securities offered through Cetera Advisor Networks LLC ("Cetera"), member FINRA/SIPC. Investment Advisory services offered through United Capital Financial Advisers, LLC ("United Capital"), an investment adviser registered with the SEC. Cetera is under separate ownership from any other named entity. *For a comprehensive review of your personal situation, always consult with a tax or legal advisor. Neither Cetera Advisor Networks LLC nor any of its representatives may give legal or tax advice.


## Erik Potts

Certified Financial Planner™, President

PANORAMA WEALTH STRATEGIES

20 B Hampton Road • Exeter, NH 03833
Phone: 603-658-1800 • epotts@panoramawealthstrategies.com
www.panoramawealthstrategies.com

As a CFP®, Erik has over 14 years of experience helping his clients reach their financial goals. To set the foundation for planning with clients, Erik builds a comprehensive panoramic financial view of their lives. As an independent CFP®, he is able to provide his clients with unbiased advice and strategic solutions to help them build their financial road map. Erik primarily advises retirees, business owners and families that have loved ones with special needs

Advisory services through Cambridge Investment Research Advisors, Inc., and financial planning through Panorama Wealth Strategies, both Registered Investment Advisors. Panorama Wealth Strategies and Cambridge are not affiliated.


Planning Today for Tomorrow

## Paul Gassel

Managing Partner, Certified Fund Specialist®

- Comprehensive wealth management
- Investment advisory
- Risk management

Paul Gassel is both a financial advisor and the managing partner of WWM Investments, LLC, serving his clients since 1995. Paul assists with the accumulation and protection of personal wealth tailored to meet the complex and rapidly evolving financial markets. He works to continuously enhance his reputation for accessibility, professionalism, performance and the depth and quality of his long-lasting consultative relationships with clients.

300 South Wacker Drive, Suite 2000 • Chicago, IL 60606
Direct: 312-356-2167 • pgassel@wwminvestment.com

Securities, investment advisory and financial planning services offered through MML Investors Services, LLC. Member SIPC. WWM Investments, LLC is not a subsidiary or affiliate of MML Investors Services, LLC or its affiliated companies.


Stratos Wealth Partners

## Grant Ulrick

CLU®, CFP®, Wealth Advisor, Partner

- Asset-management, retirement, insurance and planned giving
- Comprehensive financial planning, and estate planning

With over 20 years of experience in the financial services industry, Grant uses a goals based approach to meeting the needs of each client. If you are looking to grow, manage or distribute your wealth it may be time for a conversation.

Danbury, CT 06810 • Meriden, CT 06450 • Scottsdale, AZ 85254
Phone: 203-617-1501 • gulrick@stratoswp.com • www.grantulrick.com

Securities offered through LPL Financial, member FINRA/SIPC. Investment advice offered through Stratos Wealth Partners, LTD., a registered investment advisor and a separate entity from LPL Financial.


## Kimberly J. Brumbaugh

LUTCF®, Founder, CEO

Our firm's emphasis is on comprehensive planning driven by advice. Our clients are C-suite executives, owners of middle market businesses, and retirees. We solve financial objectives on a cross-disciplinary basis, not just from a legal or tax perspective. Coordinating with other advisors, we help people retire well with our core philosophy of serving clients' needs first, last and always.

BRUMBAUGH wealth management

415 Eagleview Boulevard, Suite 110 • Exton, PA 19341
Phone: 610-458-2495 • kbrumbaugh@brumbaughwealth.com
brumbaughwealth.com • linkedin.com/in/kimberlybrumbaugh

Kim Brumbaugh is a registered representative of Lincoln Financial Advisors Corp. Securities and investment advisory services offered through Lincoln Financial Advisors Corp., a broker/dealer (member SIPC) and registered investment advisor. Insurance offered through Lincoln affiliates and other fine companies. In MI., Securities and investment advisory services offered through Lincoln Financial Advisors Corp., a broker/dealer, registered investment advisor and an insurance agency. Brumbaugh Wealth Management is not an affiliate of Lincoln Financial Advisors Corp. CRN-1944361-110817.


WELLS FARGO ADVISORS

## Bruce F. Rosen

Managing Director – Investment Officer

555 California Street, Suite 2300 • San Francisco, CA 94104
Office: 415-288-4368 • Toll-free: 800-370-2621
bruce.f.rosen@wfadvisors.com • www.brucefrosen.wfadv.com

Bruce F. Rosen's specialty resides in the sale and analysis of fixed-income investments. He has been an advocate for clients and their families to reach their current income needs while planning future income goals with an emphasis on municipal bonds and capital preservation strategies. 2015 – 2017 Five Star Wealth Manager.

2016 and 2015, respectively, 1,442 and 1,598 San Francisco wealth managers were considered for the award; 96 and 107 (7 percent of candidates) were named Five Star Wealth Managers.

Investment and insurance products:

| NOT FDIC-Insured | NO Bank Guarantee | MAY Lose Value |
|---|---|---|

Wells Fargo Advisors is a trade name used by Wells Fargo Clearing Services, LLC, Member SIPC, a registered broker-dealer and non-bank affiliate of Wells Fargo & Company. [CAR 1117-03062].

The Five Star Wealth Manager award, administered by Crescendo Business Services, LLC (dba Five Star Professional), is based on 10 objective criteria. Eligibility criteria – required: 1. Credentialed as a registered investment adviser or a registered investment adviser representative; 2. Actively licensed as a registered investment adviser or as a principal of a registered investment adviser firm for a minimum of 5 years; 3. Favorable regulatory and complaint history review (As defined by Five Star Professional, the wealth manager has not; A. Been subject to a regulatory action that resulted in a license being suspended or revoked, or payment of a fine; B. Had more than a total of three settled or pending complaints filed against them and/or a total of five settled, pending, dismissed or denied complaints with any regulatory authority or Five Star Professional's consumer complaint process. Unfavorable feedback may have been discovered through a check of complaints registered with a regulatory authority or complaints registered through Five Star Professional's consumer complaint process; feedback may not be representative of any one client's experience; C. Individually contributed to a financial settlement of a customer complaint; D. Filed for personal bankruptcy within the past 11 years; E. Been terminated from a financial services firm within the past 11 years; F. Been convicted of a felony); 4. Fulfilled their firm review based on internal standards; 5. Accepting new clients. Evaluation criteria – considered: 6. One-year client retention rate; 7. Five-year client retention rate; 8. Non-institutional discretionary and/or non-discretionary client assets administered; 9. Number of client households served; 10. Education and professional designations. Wealth managers do not pay a fee to be considered or placed on the final list of Five Star Wealth Managers. Award does not evaluate quality of services provided to clients. Once awarded, wealth managers may purchase additional profile ad space or promotional products. The Five Star award is not indicative of the wealth manager's future performance. Wealth managers may or may not use discretion in their practice and therefore may not manage their client's assets. The inclusion of a wealth manager on the Five Star Wealth Manager list should not be construed as an endorsement of the wealth manager by Five Star Professional or this publication. Working with a Five Star Wealth Manager or any wealth manager is no guarantee as to future investment success, nor is there any guarantee that the selected wealth managers will be awarded this accomplishment by Five Star Professional in the future. For more information on the Five Star award and the research/selection methodology, go to fivestarprofessional.com. 3,781 Chicago wealth managers were considered for the award. 438 (12 of candidates) were named 2017 Five Star Wealth Managers. 1,716 Denver wealth managers were considered for the award; 287 (17 percent of candidates) were named 2017 Five Star Wealth Managers. 739 New Hampshire wealth managers were considered for the award; 89 (12 percent of candidates) were named 2017 Five Star Wealth Managers. 3,022 Philadelphia wealth managers were considered for the award; 437 (15 percent of candidates) were named 2017 Five Star Wealth Managers. 1,488 San Francisco wealth managers were considered for the award; 49 (3 percent of candidates) were named 2017 Five Star Wealth Managers.

# FIVE STAR AWARD WINNERS

Award winners are listed by city, profession and then alphabetically by last name.

## Atlanta

### Wealth Managers

2,378 Atlanta wealth managers were considered for the award; 301 (13 percent of candidates) were named 2017 Five Star Wealth Managers.

Erik Anhaus · Benedetti Gucer & Associates · 404-602-0034

Jaime Benedetti · Benedetti Gucer & Associates · 404-602-0034

Mark Callaway · Morgan Stanley · 404-264-4288

Sean Foote · Morgan Stanley · 404-459-3802

Emma Foulkes · Greenwood Wealth Management · 404-633-9952

Kristen Fricks-Roman · Morgan Stanley · 404-459-3812

Kevin Garrett · LPL Financial · 770-353-6311

Timothy Gelinas · Senior Financial Planning · 770-973-5220 *Page 2*

Barry Munro · Munro Legacy Planners · 770-321-6648

Derrick Rivera · Ameriprise Financial Services, Inc. · 404-591-2452

Michael Ross · The Wealth Enhancement Group · 770-777-1845

Allen Rutledge · Capital Planning & Investments · 770-499-0262

Laura K. Schilling · Financial Innovations, LLC · 404-458-0065

Justin Streeter · Ameriprise Financial Services, Inc. · 678-831-4532

Bryan Taylor · Cornerstone Management Inc. · 770-449-7799

Peter Wilder · Ameriprise Financial Services, Inc. · 770-431-5125

### Investment Professionals

We honored 26 Atlanta-area investment professionals with the 2017 Five Star Investment Professional award.

Gary Reed · Reed Financial Group · 678-442-0255

Ellen Springer · Springer & Company CPA's · 770-429-0299

## Austin, San Antonio and Central Texas

### Wealth Managers

1,431 Austin, San Antonio and Central Texas-region wealth managers were considered for the award; 207 (14 percent of candidates) were named 2017 Five Star Wealth Managers.

Matt Meyers, Sr. · Crossroads Financial Services · 800-356-2175 *Page 2*

## Baltimore

### Wealth Managers

1,759 Baltimore wealth managers were considered for the award; 232 (13 percent of candidates) were named 2018 Five Star Wealth Managers.

Matthew Manning · Morgan Stanley · 410-229-8217

## Boston

### Wealth Managers

2,819 Boston wealth managers were considered for the award; 532 (19 percent of candidates) were named 2018 Five Star Wealth Managers.

Stuart MacKinnon · Morgan Stanley · 617-589-3217

Reza Niazi Sai · Morgan Stanley · 617-570-9259

Brian Wilder · Morgan Stanley · 617-589-3426

## Charlotte

### Wealth Managers

949 Charlotte wealth managers were considered for the award; 132 (14 percent of candidates) were named 2017 Five Star Wealth Managers.

Frank Goins · Suntrust Private Wealth Management · 704-526-4433

George Kroustalis · Captrust Advisors · 704-927-0360

Stephen Thomas · Linden Thomas & Company · 704-554-8150

## Chicago

### Wealth Managers

3,781 Chicago wealth managers were considered for the award. 438 (12 of candidates) were named 2017 Five Star Wealth Managers.

Andrew Allison · Ameriprise Financial Services, Inc. · 312-533-4038

Jay Bann · Morgan Stanley · 630-245-6034

Scott A. Brown · RAI Wealth Management · 630-687-9884

Veronica Cardenas · Cardenas Asset Managment · 312-945-3740

Gabriel Chavez · Ameriprise Financial Services, Inc. · 630-487-2484

Norman Chiodras · Retirement Planners Inc. · 630-495-9700

David Cyrs · CYRS Wealth Advisors, LLC · 815-316-1111

Randy Dippell · Nestegg · 312-971-5860

Donald D. Duncan · D3 Financial Counselors · 312-526-3680

Nancy Effert · Effert Financial Solutions, Inc. · 815-444-9560 *Page 2*

Spiro Garbis · Ameriprise Financial Services, Inc. · 630-515-0055

Krzysztof "Kris" Garlewicz · Prosperifi, LLC · 847-292-4475

Paul Gassel · WWM Investments LLC · 312-356-2167 *Page 3*

Gary Allen Harris · Gary Harris Private Client Group, Inc. · 800-558-9769 *Page 2*

Bradley Jenks · Star Capital Management · 847-244-0010

Zachary Larson · Thrivent Financial · 630-821-6990

David Latko · Latko Wealth Management · 815-469-8887

Elaine Lewis · Morgan Stanley · 312-648-3564

Wade Lewis · Morgan Stanley · 312-648-3600

Russell G. Luce · Planning Legacies Financial Group · 708-499-0700

Edward McNamara · Morgan Stanley · 312-827-6632

Judith McNiff · Wells Fargo Advisors · 847-405-7317

Susan Milanak · LPL Financial · 847-680-3082

Lori Miller · LPL Financial · 630-690-0000

Kenneth Munao · Morgan Stanley · 847-842-1534

David Purkey · Morgan Stanley · 312-827-6740

Lisa Radomski · Morgan Stanley · 312-648-3518

Michael Riback · Hoopis Financial Group · 312-356-2186

Michael D. Ruggiero · Ameriprise Financial Services, Inc. · 708-226-3400 *Page 2*

Dennis Ryan · World Equity Group · 224-425-4360

David Schlossberg · Assured Concepts Group · 847-426-1077

Corey Schmidt · Thrivent Financial · 630-821-6990

Sandra Stevens · Mass Mutual · 630-441-1050

John D. Straley · Infinity Wealth Management · 847-426-3311

Mary Tomanek · Morgan Stanley · 847-480-3605

Daniel Waddick · Wunderlich Securities · 312-368-0412

Daniel Younglove · Morgan Stanley · 630-203-6170

## Cincinnati

### Wealth Managers

985 Cincinnati wealth managers were considered for the award; 288 (29 percent of candidates) were named 2017 Five Star Wealth Managers.

Dwayne Adams · Adams Wealth Management Group · 866-513-2099

Greg Brown · Brown Financial Advisors · 513-575-9654

Ken Byers · Ameriprise Financial Services, Inc. · 513-792-8023

Robert Castellini · Morgan Stanley · 513-762-5292

Robert Edwards · Morgan Stanley · 513-762-5223

Christopher Flores · Three Corners Capital · 513-745-7014

Youngjin Jung · Morgan Stanley · 513-762-5233

Thomas Mench · Mench Financial · 513-745-5111

Jeffrey Stanley · Morgan Stanley · 513-762-5317

Mark Wilkins · Thrivent Financial · 513-942-0200

## Columbus

### Wealth Managers

828 Columbus wealth managers were considered for the award; 71 (9 percent of candidates) were named 2017 Five Star Wealth Managers.

Scott Armstrong · Signature Financial Group · 614-846-6000

Margaret McLurg · Ameriprise Financial Services, Inc. · 614-389-5017

Daniel Roe · Budros Ruhlin & Roe · 614-481-6900

John Schuman · Budros Ruhlin & Roe · 614-481-6900

## Connecticut

### Wealth Managers

2,218 Connecticut wealth managers were considered for the award; 283 (13 percent of candidates) were named 2017 Five Star Wealth Managers.

James W. Coleman, Sr. · Coleman Financial Advisory Group, LLC · 203-756-7526

Michael Del Re, III · Financial Network Limited · 203-878-8194

Michael Del Re, Jr. · Financial Network Limited · 203-878-8194

Glenn Hottin · Wealth Management Advisers · 203-836-8506

John Jacobs · Jacobs Financial Partners · 860-657-8757

Geoffrey Kanner · Kanner Financial Services · 203-239-5370

Klingner · Morgan Stanley · 800-704-7309

David Lamay · Essex Financial Services · 860-767-4300

Jayme Lemaire · Wells Fargo Advisors · 860-430-5397

Daniel Massucci · Massucci & Associates · 860-628-0434

Robert Pascarell · Financial Network Limited · 203-878-8194

Dominic Schioppo · New England Financial Group · 860-313-4820

Elise Shartsis · Morgan Stanley · 518-742-2054

Jane Sullivan-Klett · Sullivan Financial, LLC · 860-657-4150

Grant Ulrick · Stratos Wealth Partners · 203-617-1501 *Page 3*

Joan Valenti · LPL Financial · 860-677-7790

Brian Vendig · MJP Wealth Advisors · 860-677-7755

Richard Vogler · Ameriprise Financial Services, Inc. · 860-466-7272

## Dallas/Fort Worth

### Wealth Managers

2,730 Dallas/Fort Worth wealth managers were considered for the award; 382 (14 percent of candidates) were named 2017 Five Star Wealth Managers.

Scott Cohen · CD Wealth Management · 972-499-6280

Charles Constant · Constant Wealth Management · 214-504-2332

Frances Gardner · Hornor Townsend & Kent · 469-737-4108

David Little · Little & Associates Wealth Management · 817-494-9000

John Vann · Level Four Wealth Management · 866-834-1040

Michael Woods · Stocker Woods Financial · 940-566-1212

### Investment Professionals

We honored 12 Dallas/Fort Worth investment professionals with the 2017 Five Star Investment Professional award.

A. Grava · The DI Center · 972-774-9663

## Denver

### Wealth Managers

1,716 Denver wealth managers were considered for the award; 287 (17 percent of candidates) were named 2017 Five Star Wealth Managers.

Willis Ashby · Integra Financial · 303-220-5525

Tom Baumler · United Capital Financial Advisers · 303-804-0101 *Page 3*

Mike Broker · Trilogy Financial · 303-300-3323

John Browning, II · The Browning Group II · 303-799-6110

Pamela Dumonceau · United Capital Financial Advisers · 303-804-0101 *Page 3*

Margaret English · LPL Financial · 303-793-0605

Josephine Erwin-Buck · United Capital Financial Advisers · 303-804-0101 *Page 3*

James Graham · Lincoln Financial Advisors · 303-714-4761

Bruce Hemmings · Morgan Stanley · 970-776-5501

Brad Jenkins · Jenkins Wealth · 720-457-6844

Porter Landreth · United Capital Financial Advisers · 303-804-0101 *Page 3*

Shawn Moore · Morgan Stanley · 303-572-4837

Jarrod Musick · Destiny Capital · 303-277-9977

Nancy Rinker · United Capital Financial Advisers · 303-804-0101 *Page 3*

T.H. Williams · Wells Fargo Advisors · 303-850-7900

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# FIVE STAR AWARD WINNERS

### Investment Professionals

We honored 19 Denver-area investment professionals with the 2017 Five Star Investment Professional award.

Pamela Fraser-Shenkin · CeFO · 720-506-4100

Richard Whipple · WhippleWood · 303-989-7600

## Detroit

### Wealth Managers

1,836 Detroit wealth managers were considered for the award; 356 (19 percent of candidates) were named 2017 Five Star Wealth Managers.

Joseph Fisher · Morgan Stanley · 248-740-7149

## Hudson

### Wealth Managers

241 Hudson Valley wealth managers were considered for the award; 39 (16 percent of candidates) were named 2017 Five Star Wealth Managers.

Lawrence DeNoia · LPL Financial · 914-734-2800

## Indianapolis

### Wealth Managers

1,164 Indianapolis wealth managers were considered for the award; 182 (16 percent of candidates) were named 2017 Five Star Wealth Managers.

Lisa Brown · Ameriprise Financial Services, Inc. · 317-251-8910

Kris Highfield · Ameriprise Financial Services, Inc. · 317-251-8910

Scott Holley · SBC Wealth Management · 317-848-4744

Kevin Karlander · Thrivent Financial · 317-797-1554

Robert Moritz · Money Concepts · 317-566-2121

Patrick Morrow · SBC Wealth Management · 317-848-4744

Erin Pentz · SBC Wealth Management · 317-848-4744

Carson Shadowen · SBC Wealth Management · 317-848-4744

Debra Spencer · Spencer Financial Strategies · 317-566-2050

Charles Werckenthien · SecurEstate · 765-778-7415

R. David Williams · RDW Financial Group · 317-802-7672

Nancy J. Wilson · Wilson Wealth Solutions · 317-572-1390

## Los Angeles

### Wealth Managers

2,708 Los Angeles wealth managers were considered for the award; 154 (6 percent of candidates) were named 2018 Five Star Wealth Managers.

Laura Raulinaitis · Morgan Stanley · 626-304-2457

## New Hampshire

### Wealth Managers

739 New Hampshire wealth managers were considered for the award; 89 (12 percent of candidates) were named 2017 Five Star Wealth Managers.

Deborah Nitzschke · Ameriprise Financial Services, Inc. · 603-428-4344

Michael Panico · Arcadia Financial Group · 603-681-9190

Erik Potts · Panorama Wealth Strategies · 603-658-1800 *Page 3*

## New Jersey

### Wealth Managers

4,383 New Jersey wealth managers were considered for the award; 415 (9 percent of candidates) were named 2018 Five Star Wealth Managers.

Stanley Alpert · Morgan Stanley · 973-467-6362

David Armstrong · Morgan Stanley · 908-483-9525

Diana Armstrong · Morgan Stanley · 908-483-9526

Geoffrey Close · Morgan Stanley · 973-425-2309

Vijay Dalal · Morgan Stanley · 201-967-6203

Yash Dalal · Morgan Stanley · 201-967-6356

Steven Hadley · Morgan Stanley · 973-660-4776

Evan Katz · Morgan Stanley · 973-912-7727

Gregg Kaufman · Morgan Stanley · 973-467-6368

Kishor Kumar · Morgan Stanley · 908-626-8640

Michelle Torcivia Madsen · Morgan Stanley · 973-660-4716

Michael Mall · Mall Retirement Group · 856-817-6250

Thomas Regan · Morgan Stanley · 973-425-2350

Tia Regan · Morgan Stanley · 973-425-2328

Robert Torcivia · Morgan Stanley · 973-660-4778

## Philadelphia

### Wealth Managers

3,022 Philadelphia wealth managers were considered for the award; 437 (15 percent of candidates) were named 2017 Five Star Wealth Managers.

Robert Biggs · Morgan Stanley · 215-963-3827

Kimberly J. Brumbaugh · Brumbaugh Wealth Management · 610-458-2495 *Page 3*

Michael Cice · Allied Financial Consultants · 215-497-8368

Christopher Clavin · Wells Fargo Advisors · 610-648-8908

Paolo Costa · Morgan Stanley · 610-260-8611

Nicholas Dawit · Morgan Stanley · 215-963-3814

Seth Diener · Diener Money Management · 215-675-3030

Robert Fattizzi · Ameriwealth Retirement Services · 215-443-0974

James Gillin · Morgan Stanley · 610-408-1949

Tom Graybill · Ameriprise Financial Services, Inc. · 610-524-1200

Jacob Guzman · Morgan Stanley · 215-963-3853

David Hibshman · AXA Advisors · 610-668-1094

Grant Holdren · Allied Financial Consultants · 215-497-8368

Kenneth Jones · Morgan Stanley · 302-657-2020

Thomas Kalejta · Kalejta Financial Management · 610-831-2195

Charles Korger · Carson Choice Retirement Solutions · 610-664-5550

William Marshall · Ameriprise Financial Services, Inc. · 215-757-7600

Ryan Murray · Ameriprise Financial Services, Inc. · 215-757-7600

Brendan O'Reilly · Ameriprise Financial Services, Inc. · 267-759-6087

James Pfizenmayer · Morgan Stanley · 610-260-7115

Americo Santella · Morgan Stanley · 215-854-6018

John Shimp · Ameriprise Financial Services, Inc./RidgePoint Financial Partners · 610-825-4909

Yong Wang · Advanced Financial Strategies · 215-757-2535

Susan Yelen · Morgan Stanley · 570-821-1817

## Phoenix

### Wealth Managers

1,335 Phoenix wealth managers were considered for the award; 130 (10 percent of candidates) were named 2017 Five Star Wealth Managers.

Perry Buckman · Wells Fargo Advisors · 480-368-5781

Nancy Fleming · Fleming Financial Services · 480-632-8770

Robert Harbeke · Wells Fargo Financial Network · 480-477-8494

Bruce Peterson · Wells Fargo Financial Network · 480-245-6109

Brent Pine · Integrated Wealth Management · 480-663-6000

## Richmond

### Wealth Managers

771 Richmond wealth managers were considered for the award; 93 (12 percent of candidates) were named 2017 Five Star Wealth Managers.

Bryan Berry · Old Dominion Asset Management · 804-858-0045

Tim Call · The Capital Management Corporation · 804-270-4000

Dale Chambers · Ameriprise Financial Services, Inc. · 804-421-0676

Tom Love · The Main Street Group · 804-270-4470

Corey Nesmith · Ameriprise Financial Services, Inc. · 804-249-6236

Timothy Thompson · Old Dominion Asset Management · 804-858-0045

## Rhode Island

### Wealth Managers

476 Rhode Island wealth managers were considered for the award; 188 (40 percent of candidates) were named 2017 Five Star Wealth Managers.

Louis Goldman · Morgan Stanley · 401-276-5925

## San Diego

### Wealth Managers

1,498 San Diego wealth managers were considered for the award; 228 (15 percent of candidates) were named 2018 Five Star Wealth Managers.

Dax Fletcher · Morgan Stanley · 619-236-1331

Keith Sippy · Morgan Stanley · 619-544-6581

## San Francisco

### Wealth Managers

1,488 San Francisco wealth managers were considered for the award; 49 (3 percent of candidates) were named 2017 Five Star Wealth Managers.

Bruce Rosen · Wells Fargo Advisors · 415-288-4368 *Page 3*

## San Francisco East Bay

### Wealth Managers

1,049 San Francisco East Bay wealth managers were considered for the award; 95 (9 percent of candidates) were named 2017 Five Star Wealth Managers.

James Brandt · Morgan Stanley · 925-930-3866

Mark Greenberg · Wealth & Tax Planners · 925-938-4300 *Page 2*

Benjamin Wong · Viewpoint Financial Network · 925-227-8858

## St. Louis

### Wealth Managers

1,681 St. Louis wealth managers were considered for the award; 181 (11 percent of candidates) were named 2017 Five Star Wealth Managers.

Stephen Erken · Maxele Advisors · 314-961-1850

Troy R. Hedman · Visionary Wealth Advisors · 636-346-9045

James Laughlin, Sr. · Wells Fargo Advisors · 636-530-6111

Harvey Ziegler · Morgan Stanley · 314-889-4888

## Twin Cities

### Wealth Managers

2,622 Twin Cities wealth managers were considered for the award; 591 (23 percent of candidates) were named 2018 Five Star Wealth Managers.

Amy Aadalen · Morgan Stanley · 612-371-8824

John Falldin · Morgan Stanley · 952-921-1935

Ryan Lewis · Morgan Stanley · 651-472-8087

Paul Peterman · Morgan Stanley · 507-529-4403

Thomas Rishovd · Morgan Stanley · 612-340-6748

Marcus Waterbury · Morgan Stanley · 612-340-6755

## Washington, D.C.

### Wealth Managers

1,417 Washington, D.C. wealth managers were considered for the award; 106 (13 percent of candidates) were named 2017 Five Star Wealth Managers.

Roger Achtermann · Morgan Stanley · 703-739-3688

Marguerita Cheng · Blue Ocean Global Wealth · 301-502-5306

Michael Freiman · Morgan Stanley · 202-778-1382

Andrew Gibson · Ameriprise Financial Services, Inc. · 301-320-0500

Tom Greaser · Wells Fargo Advisors · 202-414-3326

Dywane Hall · LPL Financial · 703-750-3393

Nicole Harrison · Financial Advantage Associates · 301-610-0071

Mary Liola · Concentric Private Wealth · 703-891-9966

Jennifer Myers · Sagevest Wealth Management · 703-992-7650

John Rothe · Riverbend Investment Management · 703-349-6327

Shajhan Sabir · Wells Fargo Advisors · 703-444-8950

Adam Warshavsky · Morgan Stanley · 202-778-1590

Mark Woodward · Blue Ocean Partners · 703-539-8640

Matthew Zaft · Morgan Stanley · 202-857-5425


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THOUGHTS ON

# Bosses

"Always be smarter than the people who hire you."
—LENA HORNE

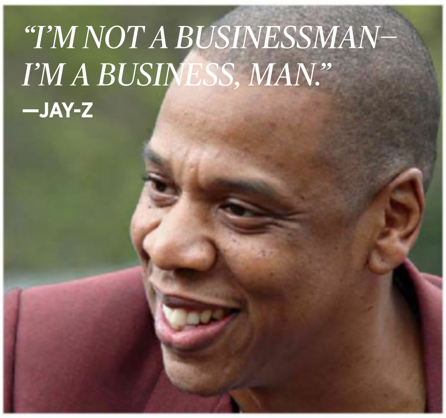
*"He has the power to render us happy or unhappy, to make our service light or burdensome, a pleasure or a toil."*
—CHARLES DICKENS

"DON'T HIRE ANYONE YOU WOULDN'T WANT TO RUN INTO IN THE HALLWAY AT 3 IN THE MORNING."
—TINA FEY

**"WE HIRE SMART PEOPLE SO THEY CAN TELL US WHAT TO DO."**
—STEVE JOBS

*"EMPLOYERS ARE LIKE HORSES—THEY REQUIRE MANAGEMENT."*
—P.G. WODEHOUSE

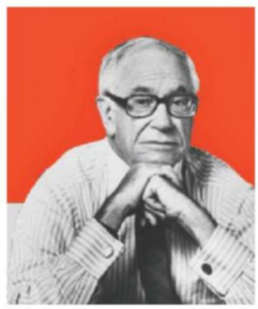
"I NEED MY BOSSES' GOODWILL, BUT I NEED THE GOODWILL OF MY SUBORDINATES EVEN MORE."
—LLOYD BLANKFEIN



*"I'M NOT A BUSINESSMAN—I'M A BUSINESS, MAN."*
—JAY-Z

"WHICH ANIMAL THE RULER SHOULD IMPERSONATE DEPENDS STRONGLY ON WHAT ANIMALS THE FOLLOWERS ARE."
—GEERT HOFSTEDE

*"Rank does not confer privilege or give power. It imposes responsibility."*
—PETER F. DRUCKER



**"TOO MANY KINGS CAN RUIN AN ARMY."**
—HOMER

**"NO MAN EVER BOSSES ME AROUND, AND NO MAN EVER WILL."**
—CYBILL SHEPHERD

*"MY WORK IS A LOVE FOR ME. I'D DO IT FOR FREE, BUT DON'T TELL MY BOSSES."*
—CHICK HEARN

*"In the past the man has been first; in the future the system must be first. This in no sense, however, implies that great men are not needed."*
—FREDERICK WINSLOW TAYLOR

"IF A RULER'S ANGER RISES AGAINST YOU, DO NOT LEAVE YOUR POST; CALMNESS CAN LAY GREAT OFFENSES TO REST."
—ECCLESIASTES 10:4

## FINAL THOUGHT

"The boss does not sleep—he rests. The boss is never late—he is delayed. The boss never leaves work—his presence is required elsewhere."
—MALCOLM FORBES

*SOURCES: BOSSYPANTS, BY TINA FEY; A CHRISTMAS CAROL, BY CHARLES DICKENS; CARRY ON, JEEVES, BY P.G. WODEHOUSE; THE TIMES BOOK OF QUOTATIONS; THE PRINCIPLES OF SCIENTIFIC MANAGEMENT, BY FREDERICK WINSLOW TAYLOR; STEVE JOBS: HIS OWN WORDS AND WISDOM; CULTURES AND ORGANIZATIONS, BY GEERT HOFSTEDE.*

CLOCKWISE FROM TOP LEFT: GILLES PETARD/REDFERNS/GETTY IMAGES; AP; JOHN NACION/STAR MAX/AP; JONATHAN ALCORN/ZUMAPRESS/NEWSCOM; FOCUS ON SPORT/GETTY IMAGES; MIKE PONT/GETTY IMAGES; SIMON DAWSON/BLOOMBERG; ARI PERILSTEIN/GETTY IMAGES; JUSTIN SULLIVAN/GETTY IMAGES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