ACCESS

FROM FEDEX: Ideas and innovations that connect people and possibilities around the world

THE NEW FACE OF INNOVATION

COVER STORY: Leading communities into the future

INCLUDING: A look inside the world’s largest urban innovation hub and an interview with Denver Mayor Michael Hancock

SPECIAL SUPPLEMENT

What’s driving Young Innovators: A report from The Economist Intelligence Unit

Location: Johnson & Johnson Innovation, JLABS @ Toronto
MEET THE PROBLEM-SOLVERS
RESHAPING OUR TOMORROW

IN THIS ISSUE OF ACCESS MAGAZINE, we’re introducing you to people across the globe who are developing game-changing trends and making their mark on the future.

You’ll meet Denver’s mayor, Michael Hancock, who is reshaping the city into a world-class innovation center. Others, like 35-year-old Adil Dhalla of Toronto, lead collaborative spaces where entrepreneurs are working together to bring about social change. And then there’s Benji Coetzee, 32, whose start-up idea took the top prize at Cape Town, South Africa’s, most recent SA Innovation Summit. Our interviews with them discuss how smart, creative energy can inspire new ways of thinking for all of us, no matter where we live.

Denver, Toronto and Cape Town are just three of 40 cities that The Economist Intelligence Unit (the research arm of The Economist magazine) included in the FedEx sponsored study An Entrepreneur’s Perspective: Today’s World Through the Eyes of the Young Innovator, which you will also find in this issue of Access.

You will see this same passion for innovation driving other leaders featured in this issue:

› Learn about Samasource Founder and CEO Leila Janah, who’s bringing digital work to the world’s poorest people.
› Meet the brilliant young minds transforming the Colombian city of Medellin.
› See how Hyperbola Founder and CEO Tina Wang has built a business on a unique blend of high-performance fabrics.

At FedEx, innovation is in our DNA. We celebrate ideas and innovations that connect people and possibilities around the world — and we’re proud to shine a light on these new faces of the future.

— DAVID J. BRONCZEK
President and COO, FedEx Corp.
Leila Janah, founder and CEO of Samasource, has built a meaningful job — and tens of thousands of others — through providing people in some of the world’s poorest communities much-needed work.
Q+A

Giving dignified, steady, fair-wage work is the most effective way to eradicate poverty, Leila Janah says. Her San Francisco–based company, Samasource, connects workers in poor communities throughout the U.S. and the world with digital jobs. In the U.S., for example, the company’s Samaschool program trains low-income people for independent work and for freelance jobs in the gig economy on platforms such as TaskRabbit and Upwork. In Kenya, Uganda and India, its workforce focuses on enterprise data services, including creating the training data required for machine learning and artificial intelligence (AI) applications, including self-driving cars. Access recently met up with Janah to learn more about the difference her business is making — and how she’s inspiring others to follow suit.

How did you initially generate interest and support for Samasource? What did you tell the naysayers?

In short, it took a lot of hustle. I knew early on that poverty was a problem I wanted to solve and the best way to solve it was by creating employment. What I had to figure out was what kind of employment I could create that would solve a real market need.

I was working as a management consultant at the time, and one of my first projects was with a call center in India. I remember not being excited about the project because I thought call centers were bad — that they were taking jobs away from middle America and reducing economic opportunity — but then I realized the model could be really powerful on a larger level. I realized digital work could go to places where the markets were really small, like parts of rural Africa. It was eye-opening. I thought, “What if we could train people in low-income communities to do digital work for companies all over the world?” That was the aha moment.

Then, over nights and weekends, over the span of two years, I read every possible book on social entrepreneurship and how to start a company. I put together a business plan and started submitting it to various competitions I found online. Finally, an organization in Amsterdam invited me to present in the semifinals of a business plan competition. I won second place and 22,000 euros. It wasn’t much, but it was just enough to make me quit my job and start Samasource. Don’t worry about the people who tell you no — I had plenty of those and actually still do. All you need is one yes.

And now your company, Samasource, has operations around the U.S. and the world. Give us a sense of the business model.

The relationship is mutually beneficial. We like to say it’s good business to do good. We’re helping companies like Microsoft, Google, LinkedIn and many others solve real business problems, and the money they’d be spending on outsourcing anyway is moving people out of poverty.

One of my favorite moments — and it’s happened several times since — was when I was on a panel at Dreamforce with the CEO of Glassdoor, a customer of ours. Backstage, he came up to me and said, “I had no idea you guys were a nonprofit!” Companies choose us time and time again because of the quality of our work — the social mission becomes an added bonus and a no-brainer. This to me is actually the future of business, where doing good isn’t an afterthought but something built right into the business model.

You’ve shown that doing good and doing good work pair together perfectly. What success story demonstrating this makes you particularly proud?

Three years ago, I met a young man named Ken Kihara, who at the time was living in Mathare, one of the largest slums in Nairobi, Kenya. In this area, kids play alongside open sewers and people make a living by scooping up bits of scrap plastic and metal for recycling. Ten years ago, one of those people was Ken. He was an orphan, his mother a victim of tuberculosis, which also killed six of her siblings, because living in a slum due to poverty turns out to be a major risk factor for TB.

In spite of all of this, Ken managed to get a scholarship to a boarding school in Nairobi. He was so poor he almost got kicked out for stealing toothpaste and toilet paper. Luckily, the principal let him go and Ken managed to graduate. You’d think that’d be the happily-ever-after moment, but with youth unemployment reaching 70 percent in some areas, Ken was forced to move back to Mathare. He found a job brewing chang’aa, a local spirit that’s mixed with kerosene and other toxic substances to enhance its potency. The guys who make it earn less than $2 a day selling it to their fellow residents.

“THIS TO ME IS ACTUALLY THE FUTURE OF BUSINESS, WHERE DOING GOOD ISN’T AN AFTERTHOUGHT BUT SOMETHING BUILT RIGHT INTO THE BUSINESS MODEL.”

— Leila Janah, Founder and CEO, Samasource

Eventually, Ken found a flier for computer classes at a local center, which happened to be a partner to Samasource. He started as an agent, working on projects like image tagging, and is now a trainer for our Samaschool program in Kenya. In fact, he has now trained over 500 people from the slums of Mathare and Kibera. I last saw him in Beirut, where he had taken his first plane trip to train Syrian refugees in digital work skills. Ken and his daughter Roselyn now live in an apartment, outside the slum, with clean water and their own bathroom. He told me recently that everything in his life has changed thanks to work.

This is the type of transformation we see, on average, across Samasource. We move people from $2 a day to $8 a day and see them invest their earnings in exactly the kinds of things we want to see, like safe housing and nutritious food. They often spend on education for themselves or their family members, and on health care. They’re even able to open up savings accounts.

For the complete interview, go to fedex.com/access.
WHAT CAN WE LEARN FROM TODAY’S HOTTEST BRANDS?

More and more, the playbook for building a business includes doing good. Here’s an inside look at the approaches four rising-star start-ups are using.

SIXTY-SIX PERCENT OF YOUNG INNOVATORS around the world see social responsibility as essential to the success of their business, according to a FedEx study conducted by The Economist Intelligence Unit. And those qualities — bringing business goals together with doing good — are gaining importance in building a brand. Here are four up-and-coming companies that have built loyal followings in record time thanks, in part, to their inventive take on the issue of good. Read what their leaders had to say at the Fast Company Innovation Festival last fall in New York.

PAYING IT FORWARD
With backers such as Elon Musk and partners including Facebook, online payments start-up Stripe has clearly struck an important chord. As the back-end brainwork behind transactions for Apple Pay, Alibaba and Lyft, among other heavy-hitters, it’s simplified once-complicated systems into technology easily embedded into websites and apps. And because the steps are virtually invisible to the end user and Stripe takes just a tiny cut of transactions (there are no other fees), the company is building a loyal customer base, even among small developers. Empathy ranks as a top employee value and extends to everyone the company connects with, Co-Founder John Collison said. “Following your values-driven approach can lead to a good place commercially — it’s valuable for competitive differentiation,” he said. “The problem is what happens when people optimize for short-term metrics.”

NATURAL BEAUTY
“Consumer protection champion” isn’t the typical role a start-up takes, but that’s exactly how “clean cosmetics” brand Beautycounter has differentiated itself and developed a loyal following, especially among millennials. “There are certainly economic advantages to using toxic chemicals, no question,” CEO Gregg Renfrew said. “We may not enjoy the margins of some companies by using safer ingredients. But at the end of the day, we have a commitment to the consumer to create safer products.” That includes lobbying for laws that ban cosmetics with toxic ingredients. “It’s not really a trade-off,” she said. “It’s part of our mission to operationalize our brand.”

INVESTING IN CONFIDENCE
Robinhood’s simple, intuitive interface focuses on four components — ticker symbol, stock price, a chart showing stock activity over time and a “Buy Stocks” button — a design that’s helped many first-timers ease into investing. A no-fees, no-commissions structure also appeals to those customers, 78 percent of whom are under 35 years old. Having a relationship with a brand is especially important for this segment, and Robinhood’s leaders have ensured that relationship is as close as possible to the one people have with social entities such as Instagram. “Anything that you would be able to get walking into your local Bank of America branch office, you should be able to get faster, better, cheaper, with a much better user experience, from Robinhood,” Co-Founder Vladimir Tenev said in an interview with Fast Company. That experience goes far in helping customers gain the confidence they need to invest, the company’s leaders say. With 2 million users and $75 billion in transactions since Robinhood entered the business in 2014, it appears the approach is paying off.

MORE THAN JUST KETCHUP AND MUSTARD
Condiments made entirely from real ingredients landed Sir Kensington’s on shelves at Whole Foods, in meal kits for Blue Apron and at restaurants nationwide. “We don’t have to cheat in order to win,” Co-Founder Scott Norton said. “If you educate and entertain people, then actually consumer demand is going to shift away from ingredients that are high in sugar and fat and other things that have a disastrous effect on human health.” He and Sir Kensington’s are certainly on to something — Unilever acquired the company in a multimillion-dollar deal in 2017.
Sesame Street took a fresh look at its mission.

What’s the thinking behind it?

We’re driven by what we call a “whole-child curriculum,” with a mission to help kids grow smarter, stronger and kinder. Smarter represents academic skills and content knowledge, as well as cognitive processing skills. Stronger represents our health curriculum to make sure our bodies are physically healthy, but it also represents resilience and regulating one’s emotions. And kinder is about our social relationships. It’s building friendships; it’s about understanding each other and appreciating cultural and racial differences while also seeing that we’re the same — and it’s the sameness that’s at the core of relationships.

Sesame Street, from the very beginning, has been a very kind show. But we never had kindness in our mission and never had a kindness curriculum, so we thought maybe we should come up with one. We engaged in research with parents, teachers and children, and lessons learned helped us figure out how to approach curriculum development and what key messages and lessons to include in the show and across media platforms.

Why did you decide to go with kindness?

Every year, we identify an educational, societal, health, social or emotional need going on in the lives of today’s children. Most recently, we knew from research studies that there is a concern about a lack of empathy and compassion among children today. So we thought, “What are the essential foundational skills we could address in an age-appropriate way through stories and our characters — so that we could plant these seeds not only for children but for the adults in their lives, as well?”

Adults are an important part of your audience, too?

Sesame Street has always been created with a dual audience in mind. Through humor, our characters really resonate with parents. And now we have parents who grew up on the show, so they’re sharing a piece of their childhood with their children. We want parents to co-engage with our content because, in the case of kindness and empathy, we’re modeling what kind behaviors look like so that parents can reinforce these behaviors once the show is over. And I think that’s an important component of who we are. Our show is not only diverse, but we model inclusion. So it just felt right that we would take on kindness as a curriculum focus because, in many ways, it’s been part of who we are from the very beginning. Sesame Street was designed as an inner-city neighborhood with a multiracial human cast interacting with a range of species — monsters and grouches and birds — and everyone learning to live, work and play together. That’s what this curriculum is all about. It goes back to season one. It’s us. It’s who we are.

For the complete interview, go to fedex.com/access.
ONE IN 10 PEOPLE WORLDWIDE will contract a foodborne illness this year. It’s a fact that doesn’t sit well with the U.S. Centers for Disease Control and Prevention (CDC) and its counterparts in other countries — or with Marie Wieck and her team at IBM. Wieck oversees the global strategy for much of IBM’s work around the emerging technology that she describes, in its simplest form, as a shared database. Among the uses for this database: food provenance (aka traceability and origin) to ensure the safest possible food supply.

Working with suppliers and retailers, IBM has developed a blockchain platform that has the potential to hold information from every party involved in getting a food item to consumers — from the farmer to the packaging plant, distributor and store. “When you have an issue with contaminated items and you’re trying to protect people’s health, blockchain helps you find and eliminate those items quickly,” Wieck says. The technology has already been put to the test tracing shipments of organic mangoes from Mexico for a large U.S. retail chain — and it’s reduced the average time needed to trace food to its exact origin from just over six days to mere seconds.

Blockchain is the latest big breakthrough for the 107-year-old company that made a name for itself in calculators, mainframe computers, printers and PCs before debuting IBM Watson, a computer system that uses machine learning to answer questions, in 2011. “Any technology company that is going to survive for 100 years, given the rate and pace of technological evolution, pretty much has to reinvent itself continually,” Wieck says.

That’s what led to IBM’s exploration of blockchain as part of a longstanding exercise at the company that looks at emerging technologies 5–10 years out. “We saw it as a really great way of sharing information across enterprises and to build a level of transparency and trust that you can’t get from normal mechanisms today,” Wieck says.

NOT YOUR AVERAGE DATABASE
Several factors differentiate blockchain from other databases. One is that the exact same version of the database — right down to every data point — is shared across the entire network of involved parties. That means there’s no single source of failure for the data that could potentially be vulnerable to a cyberattack or another kind of system breakdown, Wieck says. (To address privacy and security concerns, blockchain data is encrypted.)

HOW IBM IS USING BLOCKCHAIN TO CHANGE THE WORLD

The general manager of IBM Blockchain explains the gist of the new technology — and why it’s such a big deal.
Perhaps the key difference, however, is that a blockchain is “immutable.” That means that unlike most databases, which are updated to create the latest version, blockchain keeps a record of all updates. “One of my colleagues likes to talk about it as if you’re writing the crossword puzzle in pen,” Wieck says. “If you write ‘MOON’ and then realize it should be ‘STAR’ instead, you would see that you crossed out ‘MOON’ and wrote ‘STAR’ — you wouldn’t just replace it.” That attribute — the complete history of the data — ensures accuracy. And in the case of mangoes from Mexico, it quickly connects the dots for everyone involved in the process.

While blockchain is being put to use for functions across dozens of industries — think drug trials, financial transactions, educational records — research by global research firm Gartner shows that manufacturing and supply-chain-related industries represent the biggest opportunity for the technology. That explains IBM’s work to create blockchain solutions for Danish shipper Maersk, the largest ocean container shipper in the world. Upwards of 200 communications — from the producer to the shipper to the port authorities, most on paper — are associated with each container, IBM learned. Digitizing those communications on blockchain will streamline the process, provide real-time transparency for location and other conditions, and, ultimately, reduce the cost of shipping a container. “Considering 90 percent of physical goods we consume worldwide spent some time on an ocean in the course of their life, this can actually have a material impact even on GDP,” Wieck says.

There’s no question the impact of the technology is far-reaching. “This is going to have the same kind of transformative effect on business processes and transactions that the internet had on communication,” Wieck says. And IBM is keen on making blockchain technology accessible to all, including programmers and developers. “We even have a free academic initiative to provide access to over 1,000 universities for our blockchain platform so they can teach the skills needed for these new types of networks and new types of solutions,” Wieck says.

Ultimately, most people will never need to know they’re using a blockchain, she says. “They’re just going to know that they can look up on their cell phone whether this mango was organic or not. We want it to be that easy.”
Colombia’s second-largest city is attracting attention from innovators and investors around the world. Here’s why.

FOR YEARS, AGUSTIN PELAEZ — founder and CEO of Ubidots, a web-based platform that helps companies turn sensor data into actionable insights — found himself always asking the same question: “Why is the innovation in Latin America mostly about copying and pasting a model that worked someplace else?”

So, after earning a master’s degree in France, he returned to his hometown of Medellín in 2012 to work on reversing the trend. “I wanted to build something we could take from Latin America to the world, not the other way around,” he says. Turns out, he was part of the early stages of a movement that’s landed Medellín among the world’s most innovative cities in reports and accolades from The Wall Street Journal, the Rockefeller Foundation, the World City Prize and others.

It’s been quite the reversal of fortunes for the city once home to drug lord Pablo Escobar and now portrayed as its 1980s self in the popular Netflix series Narcos. Since then — notwithstanding the more than five decades of civil conflict in Colombia, which came to an end in 2016 — Medellín has worked hard to put on a new face for the world. “It’s like creating a city from the beginning, and it’s not normal for a city to do that so quickly,” says Carlos Alvarez, a local innovator who’s the founder and CEO of Workep, a project management platform for G Suite (formerly Google Apps) that centralizes functions and automates tasks.

Many factors have helped the city pull it off — and one of the most important isn’t all that revolutionary: transportation. “People don’t need a lot of time to get to work here,” Alvarez says. “You have easy access to everything.” In mountainous Medellín, that means a system of outdoor escalators and the Metrocable — the world’s first mass-transit gondola system, with three lines and two more under construction. Along with many of the city’s innovation hubs, they’re built in poorer neighborhoods as part of larger revitalization efforts.

The resulting environment appeals to the Young Innovators the city needs to grow and prosper, says Diego Alejandro Guzmán, founder and executive director of Bankity, a Medellín-based personal finance app that helps users easily monitor their budgets. “I make this comparison,” he says: “Bogotá is like New York, with a lot of buildings and a lot of people working in the corporate ranks. And Medellín is like San Francisco, where the weather is amazing and the quality of life is great. That’s important for building innovation. If you need to bring people from the outside, you need to bring them to a really good place.”

WATCH: See how Medellín-based Mistura crafts watches for a worldwide audience at fedex.com/access.
Investment — both from local sources, including the government, and from outsiders eager to get in on the action early — is also key. “A lot of companies are here because of the people and their talent, and because the government is investing in transportation and infrastructure,” Alvarez says. “It’s a new movement around innovation.” Schools and universities are adjusting curriculums to focus on tech fields to feed the talent pool, he says.

The energy extends to companies innovating beyond the tech sector, too. One of them, FedEx customer and watchmaker Mistura, uses unconventional and renewable materials such as flower petals and wood from reforested trees in its products. “We wanted to break out of the classic part of this industry, and one of the ways we’ve intervened in the design is in the materials,” says Mateo Isaza, the company’s general manager.

Regardless of industry, innovators are making a name for the new Medellin. “What people don’t always see or realize is that they are not only here as a result of the transformation,” Pelaez says. “They’re part of the transformation. They have a stake in the history of the city — one that’s going to continue to attract more start-ups and innovative companies. That’s exciting!”

**USING ARTIFICIAL INTELLIGENCE TO FIGHT ILLNESS**

DeepMind is bringing machine learning to one of the least predictable machines: the human body.

**SEVEN-YEAR-OLD BRITISH ARTIFICIAL INTELLIGENCE**

(Al) start-up DeepMind made big waves in 2015 when its program beat a professional player in the ancient Chinese game of go. But the latest venture for the Google-owned company promises something more life-changing and even, as some experts say, death-defying. Using a secure mobile app — one that makes it easy for hospitals and clinics to safely share data — DeepMind is looking in the future to apply a layer of machine learning that can quickly zero in on diagnosing an illness, arming doctors with more ammunition to fight disease than ever before. In a world where the benefits of AI can be hotly debated, it’s looking like the company is on to a real win-win.
INNOVATION IN ACTION:
LEADING THREE CITIES INTO THE FUTURE

by SHAWN GILLIAM
Toronto photography by KEVIN VAN PAASEN
INNOVATION TAKES SHAPE IN COUNTLESS WAYS, community by community. In An Entrepreneur’s Perspective: Today’s World Through the Eyes of the Young Innovator — a study conducted by The Economist Intelligence Unit and sponsored by FedEx — we tapped people in 40 cities to speak about the new innovation economy. Here, we dig into the unique attributes of three of those cities. From the dramatic rise of Denver’s start-up scene to Cape Town, South Africa’s, social innovations to Toronto’s cutting-edge approach to inclusivity, they’re proving the way to the future is anything but prescriptive. And they have lessons for all of us, no matter the place we call home.
WITH 1.5 MILLION SQUARE FEET IN THE HEART OF TORONTO, MaRS Discovery District ranks as the world’s largest urban innovation hub. Home to 150 organizations — from start-ups to large multinationals — it’s where 6,000 entrepreneurs, educators, scientists, business experts and venture capitalists come to work every day. Access went inside to learn about the innovation first-hand — and to experience the energy and ingenuity that’s inspired other high-tech developments, including Alphabet’s Sidewalk Labs’ recent decision to launch an ultra-connected neighborhood called Sidewalk Toronto. Karen Greve Young, the hub’s vice president of corporate development and partnerships, joined us in a conversation about how Toronto is reshaping its future, along with Michelle Holland, a Toronto city council member and the mayor’s advocate for the innovation economy, and Adil Dhalla, executive director of the Centre for Social Innovation.
What’s led the way in fueling innovation in Toronto?

Adil Dhalla: If I were to prioritize one thing, it’s the diversity of our people. Innovation doesn’t occur when everyone is the same. When we all have the same experience, when we all have the same backgrounds, when we all come from the same place, we reinforce what we already know. Innovation occurs in ecosystems that are diverse because it’s in the collision of those diverse experiences and perspectives that new ideas are formed.

Karen Greve Young: Diversity is critical to achieve innovation with impact. Including people from different backgrounds and areas of expertise in conversations at all levels encourages entrepreneurs and innovators to think outside the box and solve global problems that would otherwise go ignored.

Inclusivity plays an important role in all of your work, but people don’t always associate it with innovation. Why is that?

AD: So many of the systems in the world were created by the few for the many. Diversity is the first step in changing things. The second step is including everyone. I believe the world’s best innovations are ones that are created in an inclusive way.

Michelle Holland: One way we’re addressing innovation for everybody is with our Digital Literacy Day coming up in May, which, as far as I know, has never been done before or celebrated in a city in this way. By pairing corporations and organizations together — bringing in everyone from grade 12 classes to senior citizens, who will attend sessions about everything from STEM [science, technology, engineering and math] to online banking — we are working with different segments of the population, including marginalized communities who normally don’t have the access to the digital economy. We want to make sure they feel included and aren’t left behind.

That same thinking extends to women in technology, which is a big push of yours. Tell us about it.

MH: It’s critical that we move the dial on women in technology and provide the right environment for that to happen, whether that’s through the regulatory system or whether we’re promoting girls in STEM and making sure our educational system is providing that. We’re also working with corporations to make sure they’re offering the right environment for women to move up and expand their careers.

Innovation is booming in Toronto, including the recent announcement of Alphabet’s Sidewalk Labs to launch Sidewalk Toronto. What do you think about that?

KGY: Sidewalk Toronto will transform a section of our city’s waterfront into a modern, tech-driven neighborhood, and it will demonstrate that Toronto is poised to lead urban innovation worldwide. It will provide an example for cities around the world looking to build smart cities collaboratively.

“INNOVATION OCCURS IN ECOSYSTEMS THAT ARE DIVERSE BECAUSE IT’S IN THE COLLISION OF THOSE DIVERSE EXPERIENCES AND PERSPECTIVES THAT NEW IDEAS ARE FORMED.”

— Adil Dhalla, Executive Director, Centre for Social Innovation
CAPE TOWN'S “SILICON CAPE” MONIKER isn’t just a marketing push or play on words. The city's tech environment ranks at the very top of all African cities — fueled, in part, by initiatives such as the SA Innovation Summit. More ecosystem builder than event, the summit is part of a thriving start-up scene where many efforts include some aspect of social entrepreneurship. To get a better sense of innovation in South Africa’s second-biggest city, Access connected with SA Innovation Summit’s chairperson, Audrey Verhaeghe, Ph.D., and the winner of its most recent contest and the founder and CEO of EmptyTrips, Benji Coetzee.
Entrepreneurs from 80 companies collaborate at Workshop 17, one of the biggest innovation hubs in Cape Town.

Entrepreneurs from 80 companies collaborate at Workshop 17, one of the biggest innovation hubs in Cape Town.

SA Innovation Summit taps innovators not just from Cape Town but from the rest of South Africa and 14 other countries in the southern part of the continent. Tell us about it.

Audrey Verhaeghe: We have just over 1,000 people, including 56 investors and 720 entrepreneurs. Our effort is to uplift, accelerate and connect this local tech talent with the rest of the world.

Your most recent winner was EmptyTrips, a disruptive open freight and transport marketplace that uses algorithms to match supply and demand of cargo transport in Africa — your company, Benji. What was it like to take home the top prize?

Benji Coetzee: SA Innovation Summit was absolutely amazing. It afforded EmptyTrips international exposure paired with a certain credibility as a new player in the industry. But it’s more than just a competition. It’s a platform for like-minded entrepreneurs to meet, learn from one another and hopefully create partnerships.

What makes Cape Town so appealing to Young Innovators?

BC: The best adjective to describe Cape Town and the Silicon Cape is “daring.” The hive of young, talented people from some of the best learning institutions in the country — coupled with a buzzing start-up community of venture capital firms, start-up accelerators and supportive programs — is a recipe for innovation.

Innovation often includes some aspect of doing good. What’s the back story?

AV: In Cape Town, you see extreme poverty in the townships that comes from the apartheid years, and people are really trying to connect those poorer regions with the city. For instance, incubators are put in traditionally poorer areas. That’s important because Cape Town doesn’t hide poverty. You need to understand poverty — you need to see it — to act on it. It’s part of a groundswell of social entrepreneurship driven by technology that’s very prevalent in Africa. The impact of what you do is an important driver, and it’s very much supported by cities like Cape Town. The government understands that innovation and entrepreneurship are job creators, and it’s a message they’re projecting to the rest of Africa.
In a nutshell, what do you think sums up the rise of innovation in Denver?

Michael Hancock: Denver is a city that is open and welcoming to all. We are such a diverse and rich community of innovators, activists, volunteers and so much more. As mayor and as someone who grew up here, I think part of that innovative energy — the vibrancy that makes our city so exciting — is that we have diverse neighborhoods that welcome creativity and change.

INDUSTRY led the way in revitalizing one of those neighborhoods, River North (RiNo). How did that happen?

Ellen Winkler: Brighton, where we have our biggest property, was the ugliest street in all of Denver — and we were the crazy ones who were going to take all the darts and go there. But we pretty quickly learned we could have filled two buildings over, or three buildings over — and my husband and I said, "Wait a minute; we’re on to something." What we created was 150,000 square feet of creative office space, where we have everything from small offices to the headquarters of CorePower Yoga. But what’s really wonderful is the energy and the life that you feel when you walk in. We have 80 dogs in each building because everybody can bring their dog to work. We have five kegs in each building, so there’s beer all the time. And we have cafés and coffee shops in each building.

TO PEOPLE WHO LIVE AND WORK IN DENVER, the city’s rapid rise as a hotbed for start-ups comes as no surprise. Early adoption of co-working spaces and a Young Innovator population eager to experiment have created the perfect environment, leaders say. More than 700 tech start-ups — including 170 founded in the past year — have helped boost the city center and surrounding neighborhoods. And Denver’s annual start-up week ranks as the largest free entrepreneurial event of its kind in North America. To learn more, we talked to Michael Hancock, Denver’s mayor, and Ellen Winkler, the co-founder and owner of one of the city’s hottest co-working spaces, INDUSTRY.
It’s also about the sense of community, right?

EW: Right. You might have five or 10 or 60 people in your office, but as soon as you walk out of your office, you have 600 or 700 other people that are in the exact same boat as you are. So in that broader community, you make friends a lot quicker. If you want to go running, there are 20 people who go running at lunch. If you want to play pingpong, there’s a 300-person pingpong tournament.

That energy extends to issues like sustainability, too, right?

MH: Sustainability is all about innovation — finding creative ways to sustain practices and improve our basic natural resources for as long as possible. One of the innovations we’ve seen come to fruition is the citizen-approved Green Roofs initiative that was on the ballot this past November. That initiative will require most new buildings to include rooftop gardens, potentially in combination with solar panels. The goal of the initiative is to significantly reduce long-term operating costs by lowering energy consumption and increasing the longevity of a roof. We’re told that a green roof lasts 2–3 times as long as a traditional roof because the waterproofing portion is protected by greenery.

It’s one more way innovation is transforming the city. What’s it like to be part of that?

EW: Helping build a city has been exciting — and I don’t think there are very many cities that in that amount of time have changed as much as Denver has, and I think for the better. Because people care about the city. Many of us are here because we chose to come here.

For more on innovation in Toronto, Cape Town and Denver, go to fedex.com/access.
BRINGING HIGH STYLE TO HIGH-PERFORMANCE FABRICS

Hyperbola brings high-tech fabrics to life — fast. In the process, the pioneer has quickly risen to become a top player in Taiwan’s competitive textile marketplace.

ECONOMICS MAJOR ASIDE, it was curiosity that landed Tina Wang her first job. “Taiwan is small, so I wanted to find a job to explore all over the world,” she says. That first job involved global trade for the textile industry — and, as it turns out, it was the perfect fit. “I have tried different industries but found I love fabric and the textile industry so much,” Wang says. She’s been working in the space ever since.

And for Wang, working is innovating. The Taipei, Taiwan–based company she founded and leads, Hyperbola, specializes in unexpected blends — not only of synthetic and natural fibers but of fashion and function, too. “The traditional fabric and textile industry focused too much on manufacturing and technology — and the design and beauty of textiles were overlooked and neglected,” Wang says. “So we developed this team to combine fashion and function. I don’t think anyone was doing this when I first started.”
“I AM NOT A DESIGNER, BUT I KNOW WHAT BEAUTY IS, AND THAT HELPS ME CONNECT EASILY WITH MY CLIENTS.”
— Tina Wang, Founder and CEO, Hyperbola
That was 16 years ago, while Hyperbola’s three major Taiwanese competitors have all been in business for more than a century. Since then, Wang and Hyperbola have supplied fabrics for dozens of brands, including lululemon, Patagonia and Canada Goose.

Wang’s vision is unusual in its combination of keen design sense with functional newness, resulting in fabrics that are flashy (vividly reflective prints, for instance), cozy (such as soft “function wool” that’s both windproof and waterproof) and sustainably high-tech (one weave incorporates charred coffee grounds to help retain warmth). Hyperbola fabrics are the key ingredient in garments for pursuits that range from hot yoga to high-altitude trekking to simply hanging out. “The products in the medical, fashion and outdoor fields are all different, but they all need textiles,” Wang says.

In most cases, fashion is the common thread. “I often stress the concept of beauty to our Hyperbola team,” Wang says. “Many other manufacturers try to adapt original designs to fit their manufacturing standards. But we try to figure out a way to meet the designers’ original ideas.”

Another differentiator is Wang’s relentless commitment to R&D. New fabrics are born during brainstorming sessions with her team of 30 at the company’s loft workspace in Neihu, the tech-hub neighborhood in Taipei where she’s been able to “find the talented people who have an international view” she needs to build her team. “Some of our team members have a background in textiles, some with Ph.D.’s in that field,” she says.

FROM START TO FINISH IN A FLASH

Bringing retailers’ designers’ ideas to life means collaborating closely with subcontractors who have the expertise and leading-edge equipment to quickly mill the products to Hyperbola’s exact specifications. Speed is essential every step of the way, Wang says. Retailers’ design teams — always looking to move quickly to get new items to the sales floor — will often start choosing their fabrics as soon as vendor samples begin to arrive.

If Hyperbola’s samples are in the first package to land on a designer’s desk, that could be the key to landing a major customer. “Time is crucial for our clients, so they can be competitive in the market,” Wang says.

Time is also crucial when Hyperbola is shipping samples to trade shows all over the world, where Wang meets potential customers face to face — and where she lived an entrepreneur’s worst nightmare when a previous courier lost a shipment in a snowstorm. Instead of meeting prospective clients in Hyperbola’s custom-designed exhibit space surrounded by hundreds of fabric samples, she had to meet them in a totally empty booth. After that experience, “we’ve become very careful to select our delivery company,” Wang says. “With FedEx, we never have these kinds of problems. If issues do arise, we can count on FedEx to help us to overcome them.”

STAYING TRUE TO YOURSELF — AND TAKING A CHANCE

Looking back on her experience, Wang remembers how Hyperbola’s early days as a start-up weren’t easy — but she didn’t give up. “Don’t be afraid of failure,” she says. “The earlier you start, the earlier you will fail. And the earlier you fail, the better.”

Through it all, Wang has been true to herself. She even traces her appreciation for beauty — a key factor in Hyperbola’s success — back to childhood calligraphy lessons. “It helped me develop a feeling for beautiful things,” she says. “I am not a designer, but I know what beauty is, and that helps me connect easily with my clients.” Having the courage to do what she loved helped lead to something bigger, she says. “You must be brave and do what you love to do,” she says. “That is the No. 1 thing.”
“Many other manufacturers try to adapt original designs to fit their manufacturing standards. But we try to figure out a way to meet the designers’ original ideas.”

— Tina Wang, Founder and CEO, Hyperbola
NEW WAYS
3D PRINTING IS RESHAPING BUSINESS

From prototyping to producing actual goods, 3D printing is changing the way people around the world innovate. Here’s a look at how.

FIVE YEARS AGO, 3D PRINTING helped Singapore-based designer toy company Mighty Jaxx get off the ground. Today, the technology remains key to the company’s ability to quickly prototype and produce collections. That speed — along with star power by way of celebrity artists such as Jason Freeny, whose XXRAY designs of superheroes are all the rage — has helped Mighty Jaxx expand its reach to more than 50 countries. It’s won the company accolades, too, including the Singapore grand prize for the 2017 FedEx Small Business Grant Contest and Brand of the Year in the 2017 Designer Toy Awards.

3D printing — also known as additive manufacturing — has been around since the early 1980s. It’s evolved from the stuff of science fiction to a viable technology that’s transforming prototyping and production processes across a wide range of industries.
“Once you start using a 3D printer, you realize you can let your imagination run away with you.”

— Michael Petch, Editor in Chief, 3DPrintingIndustry.com
And although it hit a peak of media and consumer hype around 2014, there’s no reason to discount it now — the technology is still set to reshape innovation, even for small and medium-sized businesses.

**BEYOND PROTOTYPES**

Prototyping is just one small way Fredensborg, Denmark–based eyewear company and FedEx customer Monoqool puts 3D printing to use. The technology has become the basis of the business — the way Monoqool uses a nylon called polyamide to produce the eyewear it sells through optical shops in 20 countries. “When you produce in a conventional way in China or Japan, you have to accept huge minimum quantities — maybe 300 or 500 or 1,000 pieces per shape of frame,” says Allan Petersen, the company’s founder. “But in our case, in principle, we can produce just one if we want to. And when we make the frames, it can be 100 or 200 different styles of frames.” That model lets Monoqool produce frames as they’re needed, reducing the risk of huge overstocks. Another benefit of 3D printing: speed. “If you make a collection in a conventional way, you start your work 12 months ahead, but we can do it in a shorter time,” Petersen says. The shortest? Four weeks from the first design to eyewear in the warehouse.

Perhaps the biggest benefits of 3D printing for Monoqool, however, are related to design. The technology allows for some of the industry’s lightest, thinnest frames — weighing in at 4 grams versus the 20–30 grams for most glasses. It also allows for more design freedom — the ability to tweak frames to the finest degree and without screws or soldering. “That’s only possible in 3D printing,” Petersen says.

Customization is coming thanks to the technology, too. Monoqool is working with Dutch company SFERED to develop a 270-degree scanning system (scanning the front and sides of your face to just behind your ears) for opticians, which connects to the company’s library of frames. Those frames can then be fine-tuned for the perfect shape, style and color. From there, an order is placed and the frames are printed and shipped within 3–4 weeks. A beta version of the system is now in use in five stores in the Netherlands.

**MOVING TOWARD A NEW MODEL**

Although it’s plausible for innovators to invest in their own 3D printers — prices are decreasing, with a model aptly named STARTT costing only $100 — for budding innovators, the technology is heading more toward a 3D printing bureau model. The concept is simple: Bureaus are equipped with more advanced, expensive machines, allowing them to print and ship custom orders quickly. “Bureaus are proliferating because the equipment is accessible and making a custom object is possible,” says Michael Petch, editor in chief of 3DPrintingIndustry.com, one of the industry’s leading media outlets.

Fab Labs (short for “fabrication laboratories”) take the idea a step further. Created by MIT Professor Neil Gershenfeld in 2001, Fab Labs provide especially easy access to technology, including 3D printers and laser cutters, plus related tools and software. There are now nearly 1,200 Fab Labs in more than 100 countries — many located at community colleges. “The Fab Lab network has created friendships and innovation around the globe for many creative people,” says Brad Presler, who recently moved from a lab in Boston to Songdo, South Korea, where he teaches others how to use 3D printing technology.

FAB City, an initiative within Fab Lab, takes 3D printing even further. Its goal is to develop locally productive and globally connected self-sufficient cities by changing what it calls “the paradigm of the current industrial economy where the city operates on a linear model of importing products and producing waste.” 3D printing in general and the FAB City concept are “less wasteful and more resourceful,” Petch says.

Petch predicts 3D print speeds will continue to increase and
higher-quality, high-functioning content (replacement parts for, let’s say, a bike or home appliance) — content that is relevant to consumers’ daily lives — will become more available to consumers. Large corporations such as GE and HP are investing billions a year into the industry, enabling advances in material science, which means bigger machines, faster printing and a wider range of materials that provide different tactile sensations for custom-made consumer products. Although these technological advances are most widely transforming the transportation, healthcare and aerospace industries, their positive effects are starting to be felt on the average consumer — and there’s no sign of that slowing down. “Once you start using a 3D printer, you realize you can let your imagination run away with you,” Petch says.

**Print Jobs in the Works**

3D printing is still in its infancy, and innovators across every industry are testing the possibilities every day. Here’s a sampling.

**Cars**

Companies such as Divergent 3D and Local Motors are joining large, traditional manufacturers such as Kia to produce finished parts used in cars and, in some cases, entire cars.

**Food**

Researchers at NASA and at universities in Ireland and Italy are experimenting with 3D printing food, helping astronauts produce what they’d need for living in space — and helping parents give their kids nutritious food in fun shapes, such as airplanes and animals.

**Buildings**

In 2017, San Francisco–based start-up Apis Cor built the world’s first 3D-printed home. Located 60 miles from Moscow, the 400-square-foot structure went up in less than a day. The year before, the first fully functional 3D-printed office building — small at 250 square feet — was built in Dubai.
Facial recognition, virtual reality and chatbots are slipping into our social channels — and taking marketing to more personal, tangible levels.

THE LATEST IDEAS FOR CONNECTING with customers on social media have one thing in common: They’re all about realness. New facial-recognition technology is primed to start letting brands know how consumers really feel. Virtual environments incorporate so-real-you-could-pick-them-up branded objects. Highly relevant event content gets pushed out in nearly real time. And today’s chatbots mimic real, live humans to spark warm feelings about brands. Here’s a look at what’s working today and what’s on the way.

FACE FACTS
Remember when facial-recognition technology seemed impossibly futuristic, à la Minority Report? Now, we’re immersed in it daily: Facebook uses a facial-recognition algorithm to suggest friends to tag in your photos, and you can use a scan of your face to unlock your new iPhone X.

The photo-sharing social network Polygram, launched in 2017, makes the leap from recognizing faces to recognizing emotions. When you post a photo, it shows you how viewers react. The app uses a convolutional neural network to scan the viewer’s face, detect how it moves — smile, frown, raised eyebrows, eye roll — and map the reaction onto the appropriate emoji. The app reports back to you how many people looked at your post, how they reacted and how long they spent viewing it. It’s a consumer-only app for now, but before long brands will be able to harness this next-level artificial intelligence to gather and monitor unfiltered customer reactions on the spot.

OBJECT LESSONS
Virtual reality (VR) and augmented reality (AR) are social media’s next big things, with platforms such as Snapchat pioneering the use of 3D lenses and virtual avatars. Now Facebook Spaces is getting into the action, with a beta experience using its own Oculus Rift headset. To incorporate pop-up advertising seamlessly into the immersive experience, a software platform called Trivver can place advertisers’ branded objects into VR and AR environments so users can interact with them.

A Facebook user hanging out with friends in Facebook Spaces might spot a virtual energy drink sitting on a virtual table. Trivver’s “smart tab” can pop up information about the drink and let the user share his or her find with friends, receive coupons and more. Trivver not only places objects in appropriate environments, it also targets the right viewers and keeps track of what they’ve already seen so they don’t get brand fatigue. The company envisions opportunities for placing branded objects in VR and AR versions of sporting events, video games, concerts, movies and TV shows.
#SHOESANDNEWS

You know Adidas as a company that makes athletic shoes, apparel and accessories — but to cement its relationship with customers, it’s also in the news business.

To keep conversation about Adidas going on social media 24/7, teams in the company’s 12 digital newsrooms across the globe monitor trending topics and generate up-to-the-second content specifically for platforms such as Twitter, Facebook, YouTube, Instagram and Snapchat, as well as the company’s own digital properties. At the company’s U.S. headquarters in Portland, Oregon, newsroom team members from public relations, social strategy, moderation, crisis and risk management, and analytics are housed together so they can “listen, react, analyze, repeat,” in the words of managing editor Chris Murphy — and can purchase digital ads on the spot thanks to an on-site media buyer.

During the UEFA EURO 2016 soccer tournament, newsroom content earned Adidas more than 1.1 million social media shares. That’s more than twice the number of shares posted by Nike, even though Nike’s social media followership was almost double that of Adidas. The next major assignment for Adidas newsroom teams: the 2018 FIFA World Cup in Russia, where play begins in mid-June.

BEAUTY AND THE BOT

Millennials are notorious for hating phone calls, but they’re big fans of chatbots: 70 percent of consumers ages 18–34 who have used a chatbot to engage with a brand had a positive experience with it, reports a 2017 survey by mobile shopping company Retale. To reach young consumers where they live, many chatbots are moving off company websites and onto social media.

One of the first branded chatbots on the Kik instant messaging app was launched this year by beauty retailer Sephora. Kik’s 300 million users are mostly teens — a prime audience for the bot’s beauty tips, makeup demos and product recommendations, which users can purchase without ever leaving Kik. (Facebook Messenger, which reaches more than 700 million users, offers a similar function.)

Sephora has also experimented with bot-promoted contests, including Kik’s first-ever sweepstakes and an auction for beauty samples, in which bidders used Kik’s digital rewards points, normally used for in-app purchases such as stickers. Both massively exceeded expectations for engagement levels, according to Bindu Shah, Sephora vice president of digital marketing and media, who reported to Women’s Wear Daily that Sephora was “amazed at the level of engagement, which was significantly higher than standard contest metrics on social platforms.” “We were also thrilled that the sweepstakes enabled us to collect actionable insight from our users, all while giving them a fun and rewarding experience,” she said.
CONNECTION: THE KEY TO UNLOCKING THE GLOBAL ECONOMY

by FREDERICK W. SMITH, Chairman and CEO, FedEx Corp.

It’s predicted that by 2050 our planet’s population will reach 9.7 billion. That’s one-third more mouths to feed around the world. At the same time, farmers are hard-pressed to produce more due to decreasing arable land, higher input costs, and climate change. But Ros Harvey, founder of a company in Australia called The Yield, has developed an application called Sensing+ that helps farmers grow more food. It delivers such data as soil conditions, irrigation, and weather information to farmers who, in turn, maximize their crop yields and lower their own financial risk. The result: more food for everyone and higher profits for producers.

This example of connection is at the core of human and technological experience. In connecting with other people, we share ideas, forge relationships, and create well-crafted, collaborative solutions. In connecting through technology, a world of speed, convenience, and achievement opens up for all of us.

From day one, FedEx has built its business on connections. We’re at the nexus of the global economy and link people to possibilities around the world. Because of that, from the beginning, we’ve been on a quest to innovate on behalf of our customers. Their goals become our goals.

For example, customers in select metro areas who need their goods delivered very quickly can use our FedEx SameDay® City service to receive their shipments in a matter of hours. Medical customers who need drugs delivered at constant temperatures can use SenseAware®, a FedEx innovation, which monitors temperatures and sends alerts during shipment. For those who want to manage their packages from their mobile devices, we offer FedEx Delivery Manager®, which allows customers to schedule deliveries and choose from several delivery options. Recently, we’ve partnered with Walgreens to enable customers to pick up their packages at more than 7,500 of the company’s locations.

Now a new breed of entrepreneurs, with great expectations and greater access to enabling technology, is on the rise.

Harvey is one of hundreds of thousands of Young Innovators who are a growing force in the world economy. A recent survey by The Economist Intelligence Unit reveals what makes them tick. Read it in this issue.

› These entrepreneurs prize their connections. They see their digital and physical links to customers as critical to business success. While tech-savvy innovators certainly value new technologies, half of them say social media has been their most important digital tool.

› They see the world as their marketplace, not just their region or country. More than two-thirds of the entrepreneurs surveyed said access to global markets makes it easier to find new customers, and 40 percent ranked geographic expansion as the most important factor to their business’s future growth.

› They highly value education, since an educated workforce can help their companies thrive. In fact, education ranks behind only economic growth as a top passion for entrepreneurs.

› They view the free movement of people and the free exchange of ideas as good for business. Entrepreneurs are crossing more borders in search of both customers and talented workers. Half of them say globalization makes it easier to find capable workers.
Young entrepreneurs understand the importance of **social responsibility**, and more than 50 percent have actually made business decisions that put social good over profit. 

We are in a unique position to help Young Innovators tap into the **power of the global economy through values** that run deep in our FedEx culture and that align with theirs.  

> Our **networks** span the globe — we can deliver to 99 percent of the world economy. That means we can get our customers’ goods to nearly every doorstep in the world.  

> We advocate for **open trade**. Despite rising protectionism, we know that better access to global markets means more customers and growth for businesses, and greater, more economical choice for consumers around the world.  

> We know that **education** is the key to job growth. Technology has eliminated some jobs but has added many more. Educating and retraining workers for those jobs should be a priority of government, educational institutions, and companies themselves. Part of our Employment Pathways initiative supports programs that train unemployed people for in-demand tech and logistics jobs.  

> We recruit **talented workers** from anywhere in the world. Like entrepreneurs who support the free movement of people across borders, we endeavor to have our workforce reflect the diversity of the customers we serve. We are proud to have been named to **FORTUNE**’s “Best Places to Work for Diversity” list.  

> Like innovative entrepreneurs, FedEx believes that **social responsibility** is an avenue for positive change — so much so that we’ve pledged to invest $200 million in more than 200 communities around the world by 2020. We know that when communities thrive, they spark individuals to create, prosper, and raise living standards around the globe.  

Entrepreneurs are a growing force in the world today, one that is shifting markets and ways of thinking. FedEx will be there every step of the way with them, both fueling the power of the global economy and harvesting its benefits to create an even more connected world — one that offers greater economic participation and more hope for what’s possible.  

For more about The Yield’s agricultural technology, go to [fedex.com/access](http://fedex.com/access) and search “The Yield.”
7.6 billion people could be waiting for your idea.

A big world, full of endless opportunity.

When inspiration becomes innovation and “someday” becomes today, FedEx is here to help you make the connections that matter. Find out more at fedex.com/access.