Citizenship

Bringing smart to life

We combine the greatest strengths of our company and its people — technology, expertise and energy — to develop innovative programs focused on challenges facing communities where we live and work.
P-TECH education model

The P-TECH school model is a groundbreaking public education reform initiative designed to address both education and workforce development issues. Extending high school to six years, students can graduate with a high school diploma, a no-cost associate degree aligned to industry needs, and workplace experiences, including mentorship and internships. P-TECH (or Pathways in Technology Early College High School) helps to strengthen regional economies with a workforce more prepared for new-collar jobs and provides current, relevant technical and professional education opportunities to young people from primarily disadvantaged backgrounds.

The first P-TECH school opened in Brooklyn, New York, in September 2011, as a collaboration among IBM, the New York City Department of Education, the City University of New York and the New York City College of Technology (“City Tech”). In 2017, there were 90 P-TECH schools in the U.S. across seven states (New York, Illinois, Connecticut, Maryland, Colorado, Rhode Island and Texas), as well as Australia and Morocco. In 2018, P-TECH will be in nearly 120 schools with over 500 corporate sponsors, and is on track to prepare more than 75,000 students for new-collar jobs. IBM serves as the lead sponsor for eight schools, while providing leadership across the entire network. In 2017:

- P-TECH completed its first full six-year cycle, with the first cohort graduating from P-TECH Brooklyn at a rate more than four times the on-time national community college graduation rate. Students earned associate degrees in computer information systems or electromechanical engineering technology in six years or less. The vast majority of graduates have gone on to further education in a four-year institution. At the end of 2017, the first two schools, in Brooklyn and Chicago, had a combined 98 graduates — many are the first in their families to earn college degrees, and 15 now work at IBM.

- Throughout the network of schools, students are demonstrating significant success. Students at the Sarah E. Goode STEM Academy in Chicago, Illinois are achieving a 90 percent pass rate in college courses. At 16 P-TECH schools in New York state, 85 percent of students earned college credits and one-third completed two or more college courses before year four of the model. At Excelsior Academy in New York, more than one-third of the first class is on track to graduate two years early, while at Norwalk Early College Academy in Connecticut, 18 percent are on track to graduate two years early.

- New York launched six new P-TECH schools for a total of 37 statewide, while Maryland opened three and Rhode Island two.

- The seven new schools that broke ground in Australia last year are now fully launched, bringing the total to nine, including one in Ballarat where IBM serves as lead industry sponsor. IBM is also lead sponsor for one of two schools that opened in Morocco. Taiwan committed to replicating the model, planning its first three schools for 2018.

Teacher Advisor With Watson

Teacher Advisor With Watson is a free online resource to help teachers plan and deliver lessons aligned to 21st-century standards and establish foundational knowledge in young students. Following a pilot deployment, it launched publicly in September 2017 and registered over 10,000 users from all 50 United States in its first seven months.

IBM Watson’s cognitive abilities enable the system to interact with teachers, understand their needs and recommend resources from among 4,000 lessons, activities, strategies and standards details available online. UnboundEd, a nonprofit organization devoted to teacher support and quality instructional practice, selects and reviews all content for quality and alignment with current standards. Initial content supports elementary-school math for students ages 5–11, with plans to add middle-school math (ages 12–14) in August 2018.

The 2017 launch followed a multi-year development in collaboration with education leaders, subject-matter experts in instructional pedagogy and
teacher professional development — and of course, teachers. We asked about challenges in elementary classrooms, and heard consistently about time pressures: U.S. teachers average nine hours weekly outside of school time planning their work, according to a study by the Bill and Melinda Gates Foundation. We also heard about struggles to find quality and aligned resources that help build students’ understanding of elementary math. Teacher Advisor is designed to help address both challenges. Asked to search for a concept, resource or student need, Watson leverages its ability to understand natural language to help locate targeted, quality content faster. “It allows teachers to quickly get their hands on exactly what they need,” said Regan Lonien, who teaches fourth grade in Minnesota.

The Christensen Institute, a nonprofit think tank exploring disruptive innovation in education, wrote: “AI’s capabilities arguably limit it from performing many of the intensely human aspects of teaching. AI does have the potential, however, to complement teachers in new ways that could radically free up their time... The AI technology in Teacher Advisor allows teachers to search for resources and create lesson plans in a fraction of the time it would take them to do it alone.”

The Education Commission of the States cited Teacher Advisor and P-TECH when presenting its 2017 Corporate Award to IBM, honoring our sustained commitment to improving U.S. public education. Although developed for U.S. educators and available only in English, Teacher Advisor is open for anyone to use at teacheradvisor.org.

**Teachers TryScience**

IBM’s global initiative to strengthen teacher instruction by providing free, quality STEM lessons and instructional resources grew to serve 28,000 registered users with 617 lessons and pedagogic resources in 21 languages. The Teachers TryScience website received 216,756 visitors from 210 countries in 2017.

Educators across Asia Pacific embedded Teachers TryScience resources into teacher training and curriculum throughout 2017.

- The Australian Museum Research Institute launched education resources on the Teachers TryScience website to complement a citizen science project called FrogID, which involves the entire country in a frog count and identification of frog species.
- In Malaysia, the Ministry of Science, Technology and Innovation announced plans to use the website to train 4,400 special-needs educators across the country over two years.
- The National Institution for Transforming India recognized Teachers TryScience as a “best practice” in the private sector. The site’s resources have reached 1.7 million students in India since 2013 with lesson plans customized for local regions.

Additional workshops and events in Hong Kong, Korea, Malaysia, Thailand and Vietnam extended STEM teaching to new regions and schools.

The American Chamber of Commerce in Thailand recognized IBM Thailand with an Excellence in CSR Projects Award for its Teachers TryScience teacher professional development project in collaboration with the Kenan Foundation.

**University relations**

IBM continues to introduce initiatives and challenges to engage and inspire many of the world’s most promising undergraduate and graduate students to build much-needed IT skills. In today’s knowledge-based economy, enabling digital competence and nurturing innovation will help better position academia, private and public entities for success.

**Bringing digital skills to Africa**

In 2017, IBM launched the “Digital — Nation Africa” (DNA) initiative to build digital skills for a 21st-century workforce in Africa. The initiative provides a cloud-based learning platform designed to provide free skills development programs for millions among Africa’s youth, enabling digital competence and nurturing innovation in Africa. The platform includes Watson artificial intelligence, which communicates
with the user to build a profile, gives an overview of the current job market and suggests multiple learning paths. Over 60 organizations have joined IBM to collaborate in the enablement of this program.

**Delivering more assets to academia**

The IBM Academic Initiative showed significant growth in 2017 after the first full year of our new academic channel, OnTheHub.com/IBM. Through the channel, validated faculty and students get access to IBM cloud, as well as powerful software and learning resources. Over 57,000 academic orders from 4,481 institutions in 114 countries more than tripled IBM’s reach from the previous program. Students embraced the program, ordering 65 percent of all assets delivered on topics including data and analytics, Internet of Things, cloud and security. IBM.onthehub.com continues to expand, adding topics including blockchain and quantum computing.

**Refreshe...**

**Veterans employment initiative**

IBM’s Veterans Employment Accelerator Impact Grant program provides software training, certification and job placement assistance to hundreds of veterans pursuing careers as data analysts. Through a comprehensive grant of our Kenexa® software, we have empowered Corporate America Supports You (CASY) to place thousands of veterans in jobs in the last four years.

“...with the human resources departments of six key corporate sponsors and now have a fully functioning model pipeline for employment for veterans in the fast-growing field of cybersecurity, where there is a shortage of data analysts. “This relationship has expanded over the years and we now work directly with the IBM Corporate Citizenship team to provide cybersecurity training and certification in IBM’s i2 and QRadar® technologies,” says Kloeppel. “These trainings have impacted hundreds of active duty service members and veterans and our collaboration has now placed more than 150 individuals directly into cybersecurity jobs—some at IBM.”

**Community resiliency**

**Corporate Service Corps**

Corporate Service Corps (CSC) has provided pro bono consulting teams to communities worldwide since 2008. Inspired by the Peace Corps, CSC offers IBMers an immersive experience designed to benefit communities, enrich its participants culturally and professionally, and support IBM’s global leadership development.

The program deploys teams of 12–15 to work with governmental, not-for-profit and social organizations, healthcare providers and other civic leaders to help address high-priority issues in education, health, economic development and community resiliency.
The teams—consultants, researchers, marketers and other domain experts—work on projects to upgrade educational technology, assess ways to improve water quality, and much more. Many IBMers call these experiences life-changing. In 2017, CSC sent 404 IBMers from 50 countries on 30 engagements that included 122 distinct projects. Projects from our 2017 engagements included:

- In Argentina, we helped the Food Bank of Jujuy develop a system to coordinate food donations and distribution, supported by a plan to promote the solution’s adoption, with a goal of increasing the organization’s capacity.
- In China, we created a plan for Dongfang Huimin Microfinancing, which makes loans to women farmers, to deliver loans faster and without increased costs by increasing their use of IT and digital financing tools.
- In Peru, we collaborated with local organizations to develop a system for coordinating volunteers assisting long-term recovery work after floods left hundreds of thousands homeless. (Watch a video about this engagement.)

The Yale School of Management, the University of Ghana Business School and EGADE Business School developed a case study in 2017 examining CSC. It was subsequently part of the Aspen Institute’s 2017 Business & Society International MBA Case Competition, involving over 1,000 students, and will be used by the 29 leading business schools in the Global Network for Advanced Management. Also in 2017, Chief Executive magazine named CSC the “best community and economic development initiative” in its annual Corporate Citizenship Awards.

In its first decade, CSC has sent nearly 4,000 IBMers in 320-plus teams to work on more than 1,300 individual projects in 40 countries.

For seven years, the IBM Smarter Cities Challenge® (SCC) program has combined IBM talent and technology to tackle urban challenges. A flagship IBM program since 2010, SCC is coming to an end as our citizenship portfolio evolves and, in some instances, carries forward projects that began with SCC and are now flourishing—such as P-TECH.

In 2017, SCC deployed IBM teams to five cities on four continents. Each city collaborated with our cross-industry experts to focus on issues related to social equity, economic development, emergency management or the environment.

In Busan, South Korea, an SCC team holistically addressed organizational, technological, process and human resource considerations as they helped devise prevention and remediation strategies for natural disasters. Working with city leadership, IBMers recommended expanding the scope of disaster management systems to include cognitive and predictive analytics capabilities, embedding blockchain into a collaborative platform for use by all stakeholders including citizens, and upgrading existing sensor infrastructure to support video analysis and an Internet of Things (IoT) platform.

“What I confirmed during my SCC experience in Busan is that technology alone is not what makes us essential to clients,” said IBM’s Frédéric Bauchot, CTO of our solutions center for energy/utilities clients. “The combination of technology with industry expertise is what ultimately helps us to achieve economic, societal and organizational advances.”

In San Jose, California, our team helped to support affordable housing initiatives by working with the city’s housing department to make recommendations on new web applications and a centralized rent registry to be used by landlords, tenants and city staff to help residents search and apply for affordable housing. Additionally, the team guided the city on how to protect and analyze the data they will be collecting.

“The SCC team’s recommendations showed us what is possible and offered additional considerations as we move forward with this project,” said San Jose Mayor Sam Liccardo. “For example, recommendations such as improving housing department communications and designing solutions with privacy in mind were based on many in-depth interviews and workshops with stakeholders that provided valuable insights.”
SCC also deployed teams in 2017 to:

- Yamagata City, Japan, to establish a data-driven plan to increase international tourism.
- Palermo, Italy, to foster innovative solutions for social inclusion through technology and sustainable partnerships.
- Abuja, Nigeria, to develop collaborative tools to create new revenue streams and strengthen investor partnerships.

In SCC’s seven years, more than 800 high-performing IBMers collaborated with leaders in 138 cities on actionable solutions to urban challenges in engagements valued at $69 million. In turn, IBMers have applied their SCC experience to their work with business clients.

“My experience taught me to do my job in a completely new way, opening my eyes, ears and mind,” said Nancy Greco, who works on cognitive IoT solutions at IBM Research. “Now I work hard to make my designs relevant in all environments—even those with limited resources, like electricity.”

We’ve delivered over 2,600 Impact Grants since 2012, and 422 in 2017.

Impact Grants

IBM Impact Grants deliver pro bono consulting and integrated software solutions—with particular emphasis on cloud, mobile, analytics and cognitive—to not-for-profit and educational organizations. Since the program’s launch in 2012, we’ve delivered more than 2,600 grants with a combined market value of $85 million. In 2017, we delivered 422 in 28 countries valued at $14 million.

- A grant of IBM i2 Analyst’s Notebook software is helping DeliverFund, a U.S. not-for-profit, use cyber-intelligence to fight human trafficking by identifying and tracking networks through their online activity.
- In Colombia, two analytics grants to Corporacion Makaia Asesoria Internacional are helping develop an open-data air quality initiative in Medellín. The first assessed what data should be collected, while the second analyzed data from sensors at six city locations.
- In New Zealand, an analytics grant helped Youthline optimize its data collection and management. The NGO is combating a high level of youth suicide and wanted to identify which of its programs have the greatest impact.
- In Turkey, we delivered a technology roadmap grant to the country’s only NGO focused on teacher development. Teachers Academy Foundation is using our recommendations to enhance their online services to 125,000 teachers.

With Independent Sector and the IBM Institute for Business Value, we published a first-of-its-kind study about NGOs’ adoption of big data and data analytics. *Leap before you lag* assessed 60-plus analytics Impact Grant projects as part of this study. Accompanying the paper is an online interactive tool NGOs can use to assess their analytics maturity.

We worked with the U.S. Chamber of Commerce Foundation leadership team on two Impact Grants assessing online social sentiment, and drew on
those results to co-publish The CSR Effect: Social Media Sentiment and the Impact on Brands. The report demonstrates how promoting organizations’ CSR activities through social media has a positive effect on their brands.

SafetyNet

IBM SafetyNet helps address two distinct challenges not-for-profit organizations face: delivering high-quality services and documenting results to support continued funding. As a cloud-based data management solution, SafetyNet helps social service providers aggregate and quickly analyze client data, pinpoint and address possible gaps in services, and innovate to support clients better. SafetyNet also simplifies compliance and reporting requirements — often prerequisites for funding — freeing staff to focus on serving clients.

Grant recipients receive access to the SafetyNet application as well as training and consulting services. “Using SafetyNet, Riis Settlement was able to complete a detailed mapping analysis of all of our program and participants,” said Christopher Hanway, executive director of Jacob A. Riis Neighborhood Settlement, an initial grantee. “This analysis is already beginning to show results in how we target programs and interventions based on the individual and collective needs of the individuals and families we serve. That is a cornerstone of good care and SafetyNet is making it possible.”

In 2017, SafetyNet grants were awarded to four not-for-profit organizations that deliver critical programs and services to vulnerable citizens — United Way California Capital Region (Sacramento), Aspiranet (which provides children and family services throughout California), and two in New York City: Grand Street Settlement and the Chinese-American Planning Council (CPC).

“SafetyNet has streamlined our system of tracking each client’s progression through our workforce training programs,” said Wayne Ho, CPC’s executive director. “Data aggregated through the SafetyNet application has helped us identify programmatic trends, patterns and pain points. We are thankful for IBM because SafetyNet has been a valuable tool in supporting our reporting practices and decision-making processes, as well as gauging the efficacy of our services and impact within our community.”

SafetyNet has 10 grantees serving over 350,000 clients through over 200 programs, supporting issues such as community health, workforce development, children and youth, seniors, families and immigration.

Natural disasters and humanitarian crises

Since 2001, IBM has responded to more than 70 disasters around the globe. We reach out to communities in times of need, integrating advanced technologies with expertise to help affected areas and individuals regroup, rebuild and recover. In 2017, IBM committed nearly $4.8 million for Impact Grants focused on disaster, the majority for recovery efforts following Hurricanes Harvey, Irma and Maria, and earthquakes in Mexico.

Atlantic hurricanes

The 2017 Atlantic hurricane season was the costliest in U.S. history, devastating communities in states along the Gulf of Mexico and on islands across the Caribbean. The widespread loss of lives, homes, businesses, infrastructure and more, represents a historic and continuing tragedy. IBM delivered Impact Grants directly supporting recovery and resiliency following Hurricanes Harvey, Irma and Maria, and mobilized volunteers and charitable donations to help affected communities in Texas, Florida and Puerto Rico. The comprehensive and ongoing program includes:

- Consulting for the American Red Cross, including business process and IT expertise to optimize shelter and volunteer management, and use of The Weather Company® platforms for American Red Cross advertising that resulted in hundreds of thousands of dollars in donations in the immediate aftermath of the storms.
- Blockchain prototyping and design thinking for the OneStar Foundation in Austin, Texas to explore how blockchain can be used to store and
process data and claims, helping manage allocation and disbursement of recovery payments efficiently.

- AI/machine learning technology and expertise for United Way Worldwide to develop chatbots to alleviate disaster-related strains on call centers.

- Situational awareness and weather modeling for the Texas A&M University System to mitigate threats to and failures in power distribution systems when disasters strike.

“When we asked corporations to help, IBM was right there, bringing to Houston a team of consultants who worked for more than two weeks with our operations staff to optimize our data integration and reporting,” said American Red Cross President and CEO Gail McGovern. “The American Red Cross is deeply grateful for IBM’s expertise and for our impactful partnership.”

Peru flooding and mudslides
In the spring of 2017, torrential rain flooded large swaths of South America. The resulting mudslides in Peru killed over 100 people while destroying 14,000 homes and leaving 150,000 people homeless. IBM volunteers came together from across Peru to plan and design tools to aid response efforts.

Through an IBM Impact Grant, our consultants developed a chatbot using Watson Conversation Services. In the first month following the mudslides, the chatbot responded to over 3,600 public inquiries across 16 topics. As a result, government and local organizations could more quickly and efficiently answer an influx of disaster-related questions, freeing critical staff to handle other tasks.

“The IBM Watson Chatbot enabled us to communicate in real time with citizens through our platform,” said Abel Aguilar, secretary of social communication of the Presidency of the Council of Ministers of Peru. “This was key to being able to respond to the large number of inquiries and requests for assistance to victims during the emergency.”

The Ministry of Defense of Peru honored IBM’s “outstanding participation and willingness to collaborate in the care of the population affected by the emergency caused by the El Niño coastal phenomenon.”

2015 Chennai flood
IBM’s two-year commitment to help India recover from the catastrophic 2015 floods in Chennai, India, is now complete. Over the course of the grant, the IBM Intelligent Operations Center for Emergency Management provided state and local government agencies with innovative capabilities to integrate, visualize and communicate the status of emergency conditions and operations, demonstrating the power of analytics and cloud technology for crisis management.

IBM Volunteers
IBM Volunteers is our expanded, refreshed and renamed initiative to support our employees’ and retirees’ volunteer efforts. Launched in 2003 as On Demand Community®, the program has recorded over 20 million hours of service in 80 countries, including 1.2 million hours in 2017.

The program is designed to help IBMers apply their professional and technical skills in their communities, but is open to everyone. Its new website offers free resources — most available in multiple languages — that anyone can use to plan and conduct a wide range of volunteer activities. It also connects IBMers with other service-minded colleagues and helps them find opportunities to help local organizations.

The January 2018 relaunch also introduced SkillsBuild™, an initiative with the goal of reaching 1 million students every year for the next five years with engaging, hands-on activities that introduce 21st-century skills and technologies: coding, AI, robotics and more. The SkillsBuild educational resources are available at no charge to anyone.

IBM Community Grants
IBMers who report their community service through IBM Volunteers can apply for IBM Community Grants to benefit the schools and community organizations where they volunteer. IBM awarded 2,800 cash grants worth a combined $3.8 million in 2017.
**Volunteer Excellence Awards**

The IBM Volunteer Excellence Award recognizes exceptional service to communities by IBMers, individually or in teams. Our 12 recipients for 2017 developed technical solutions for not-for-profit organizations, created a program to help elderly people use new technology, and promoted STEM skills to thousands of students worldwide.

- Michal Chorev motivates girls in Israel to study computer science. In 2015, she co-founded a nationwide initiative that each year delivers workshops on app development to more than 2,000 ninth-grade girls from 70 schools, led by 200 female technical professionals.

- Simon Christiansen recruited a volunteer team to develop a system for a social services organization in Denmark that pairs adult mentors with disadvantaged children. The solution, which tracks and manages volunteers’ work, is now being implemented at another not-for-profit agency.

- After an IBM Impact Grant devised a social media strategy for the Malaysian Mental Health Association (MMHA), three IBMers volunteered to implement the plan. Social media has helped MMHA dramatically improve its engagement with at-risk young people and exceed its fundraising goal by 20 percent.

Read about all the 2017 honorees and other IBMers’ volunteer efforts at [stories of service](#).

**Health**

**IBM Health Corps**

IBM Health Corps is a social impact program through which IBM works with health organizations to address urgent public health needs around the world. We nurture new ideas and use technology to expand access to health services and help improve health systems and population outcomes.

IBM experts work on-site for three weeks to help empower and equip health organizations to reduce health disparities and deliver lasting change. Launched in 2016, the program has eight projects to date.

**Improving cancer care in sub-Saharan Africa**

The cancer burden in sub-Saharan Africa is significant and projected to increase from 447,700 cancer deaths in 2012 to 984,000 annually by 2030. IBM is working with the American Cancer Society (ACS) and the Clinton Health Access Initiative (CHAI) to support their efforts to improve cancer care in the region, where late diagnosis and limited access to treatment leads to poor patient outcomes.

- ChemoQuant, an online chemotherapy forecasting and budgeting tool developed by IBM Health Corps in conjunction with ACS and CHAI, helps to increase access to life-saving cancer treatment in Africa. In June, ACS and CHAI announced groundbreaking market access agreements with pharmaceutical manufacturers Pfizer Inc. and Cipla Inc. to set competitive prices on 16 essential cancer medications, including chemotherapies, in Ethiopia, Nigeria, Kenya, Uganda, Rwanda and Tanzania. ChemoQuant will help the countries quantify their medicine needs, and plan budgets and procurement.

- IBM Health Corps and ACS worked with the National Comprehensive Cancer Network (NCCN) to create Cancer Guidelines Navigator—a digital tool to help NCCN standardize and raise the quality of cancer treatment. Demonstrated at the AORTIC Cancer Conference in November, Cancer Guidelines Navigator allows oncologists easy and efficient access to the newly created NCCN Harmonized Guidelines for sub-Saharan Africa. The guidelines will highlight treatments that could provide more resource-efficient impact, and detailed decision-making criteria that can support clinicians who may lack sub-specialty training.
Other 2017 projects
With Gorgas Memorial Institute for Health Studies in Panama, we developed a mobile disease surveillance system to connect public health investigators with epidemiologists and policy makers. Visualization of field data facilitates rapid decisions for infectious disease control across Panama. The project received Fast Company’s 2017 Innovation by Design Awards honorable mention in the social good category. Winners were selected from more than 2,500 international submissions across 13 categories.

We also joined Duke Health in Durham, North Carolina, to design a solution for sharing and mapping community health information among dozens of local clinics and agencies. Our team devised a technical strategy for the system to facilitate greater collaboration on community health.

IBM Health Corps’ work received the following additional recognition in 2017:


– Global Views magazine 2017 Corporate Social Responsibility Award in the public welfare category for the IBM Health Corps project with Taiwan Centers of Disease Control to help fight dengue fever.

World Community Grid
World Community Grid® enables anyone to donate unused computing power to advance scientific research related to health and sustainability. The initiative provides computing resources free of charge to researchers and since 2004, 750,000 participants have donated 1.6 million years of processing power from their computers and Android devices. In 2017, World Community Grid launched two research efforts.

The Microbiome Immunity Project is undertaking the most comprehensive study of bacteria to date of the human microbiome to help scientists better understand how to treat and cure autoimmune disease. The team includes researchers from the Broad Institute of MIT and Harvard, the University of California San Diego, and the Flatiron Institute at Simons Foundation. “Without World Community Grid, we wouldn’t have even contemplated this project,” said Rob Knight, Ph.D., director of the Center for Microbiome Innovation at UC San Diego.

Smash Childhood Cancer seeks better treatments for a number of common childhood cancers and involves researchers from Japan, Hong Kong and the United States. “Crowdsourcing computer processing power will save us years of experiments,” said Ching Lau, M.D., Ph.D., director of the Hematology-Oncology Center at the Connecticut Children’s Medical Center. “It is bringing us that much closer to finding the right drug for each type of cancer.”

World Community Grid volunteers have supported 29 projects since its inception, including research into renewable energy, water quality and treatments for cancer, HIV/AIDS and tropical diseases. In doing so, they have enabled important scientific advances in water purification, childhood cancer treatment and solar energy.

Learn more and join at worldcommunitygrid.org.