

# WORK

in **PROGRESS**



## How CEOs Are Helping Close America's Skills Gap

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JUNE 2017



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# LACK OF SKILLED WORKERS — National Crisis Threatening Our Economic Future

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## America's CEOs, Academia, Government Partner To Close the Skills Gap

The United States is experiencing a workforce skills gap that is holding our economy back and threatening our economic future. In particular, there are three types of skills gaps in today's workforce, often acting in combination:

- ⦿ **A lack of individuals with fundamental employability skills**, such as the ability to use basic math, communicate effectively, read technical manuals, work successfully in teams and participate in complex problem-solving;
- ⦿ **A lack of workers who have the specialized skills** needed to fill many trade positions; and
- ⦿ **A lack of applicants with the science, technology, engineering and math (STEM) skills** needed for many of today's jobs.

As America continues to recover from the worst recession since the 1930s, our economic growth is hindered because the skills of today's workers have not kept up with the requirements of current and future jobs. The situation is dire and worsening due a combination of challenges:

- ⦿ The working-age population is growing at half the rate of the past century;
- ⦿ Labor force participation is holding steadily below that of the past three decades; and
- ⦿ Baby boomers are retiring in record numbers.

No amount of automation or technological innovation can overcome these headwinds if our nation does not take action to ensure that our labor force holds the skills needed for today's jobs and for the future.

In 2016, Business Roundtable, an association of chief executive officers of America's leading companies working to promote a thriving U.S. economy and expanded opportunity for all Americans, surveyed its members and found that more than half of responding CEO members report that talent gaps are already problematic or very problematic for their companies and industries.

Likewise, a report by the Manufacturing Institute found that nearly 3.5 million U.S. manufacturing jobs will open over the next decade, but the skills gap will leave 2 million of those jobs vacant, absent concerted action.<sup>1</sup>

As America continues to recover from the worst recession since the 1930s, our economic growth is hindered because the skills of today's workers have not kept up with the requirements of current and future jobs.



1. <http://www.themanufacturinginstitute.org/~media/827DBC76533942679A15EF7067A704CD.ashx>

More than three-fourths of responding CEOs say that fundamental math, reading and writing skills are important, with around half reporting that their companies have difficulty finding qualified applicants who possess these skills. In addition, CEOs reported problems finding applicants who possess general applied knowledge skills like communication (71 percent of respondents) and teamwork (55 percent of respondents).

— 2016 BUSINESS ROUNDTABLE TALENT SURVEY



- ⦿ Offering tuition assistance; and
- ⦿ Providing education and learning opportunities for current employees to acquire new skills.

Business leaders are committed to raising the skills of the American workforce. But more will be needed to close the gap and prepare our nation for tomorrow's economic challenges and opportunities.

### Closing the Skills Gap Is a Work in Progress

There are three types of skills gaps in today's workforce, often acting in combination.

**First, many individuals lack fundamental employability skills**, such as the ability to use basic math, communicate effectively, read technical manuals, work successfully in teams and participate in complex problem-solving. Many attribute these issues to the nation's K-12 education system as the root cause of this problem, as low-performing schools and

Even as unemployment continues to decline, millions of jobs remain stubbornly unfilled because not enough applicants possess the requisite skills. Although some areas of the country face greater problems than others, this issue is not simply regional — it is a national crisis threatening our overall economic future.

### America's Business Leaders Are Concerned

The private sector already spends more than \$164 billion each year on education and training, but we are still falling behind in generating enough skilled labor to meet our nation's needs. To address this problem, we need to work directly with our nation's academic and government leaders to rebuild the pipeline that generates top talent — from the earliest grades through college, career training and beyond. This rebuilding will require nothing less than a national effort involving all levels of government, the private sector, educational institutions and training providers.

As this report makes clear, the corporate sector is moving forward on several fronts to tackle the skills gap challenge by:

- ⦿ Collaborating with education providers to sponsor large-scale training programs;
- ⦿ Providing apprenticeship opportunities;

low academic standards in many places have allowed students to graduate from high school without mastering core competencies. These individuals are unprepared to succeed in either the workplace or college. These problems can continue beyond high school, however, as many employers find significant numbers of college graduates and certificate holders also deficient in these core skills (Business Roundtable Talent Survey, 2016).

Labor Department data show that in May 2017, the United States had 5.7 million job openings, which is close to the record number of job openings reported since the Department started tracking them in 2000.



**Second, many trade positions remain unfilled because workers lack the specialized skills needed to fill these occupations,** which often do not require a traditional two- or four-year college degree. A sampling of these jobs includes:

- ⦿ Advanced welders;
- ⦿ Energy services technicians;
- ⦿ Computer technicians; and
- ⦿ Mechanics.

These jobs require specialized training that typically results in a certification or license but not necessarily a traditional college credential (although the training may count toward a degree).

Reasons for this gap include:

- ⦿ Poor labor market information on the job needs of a region and the training required to fill those jobs;
- ⦿ The difficulty of finding the right kind of training needed for specific occupations; and
- ⦿ The cost of learning a specialized skill without a clear path to post-training employment.

In the 2016 Business Roundtable Talent Survey, CEOs confirmed that their companies struggle to fill many skilled trade positions. Among the most difficult to fill were:

- ⦿ Qualified tool and die makers;
- ⦿ Welders;
- ⦿ Cutters;
- ⦿ Solderers; and
- ⦿ Electricians.

**Third, many occupations go unfilled because applicants lack the STEM skills needed for those jobs.** While this shortage exists for some traditional STEM fields, it is more acutely found in newer occupations that integrate STEM knowledge with other disciplines. These emerging job areas include:

- ⦿ Cybersecurity;
- ⦿ Data analytics; and
- ⦿ Financial services.

Forty-four percent of responding CEOs whose companies employ skilled trade workers expressed difficulty finding qualified candidates for at least one skilled trade occupation.

— 2016 BUSINESS ROUNDTABLE TALENT SURVEY



With the working-age population growing at half the rate of previous decades, it is imperative that all demographic sectors obtain the education and training needed to secure high-quality jobs.

A key problem is that many colleges and universities do not offer programs that integrate STEM skills with other disciplines that are needed in emerging occupations. Most postsecondary institutions teach traditional STEM courses such as chemistry, engineering and math but are slow to recognize that STEM knowledge is needed for many new job categories outside of the traditional STEM fields.

## Building a Diverse Workforce

A complicating issue affecting today's labor market is closing the skills gap for women and minorities. With the working-age population growing at half the rate of previous decades, it is imperative that all demographic sectors obtain the education and skills training needed to fill today's jobs. The labor market continues to underrepresent women, African-Americans and Hispanics in many occupations, particularly those involving STEM.

Over the past two decades, the U.S. workforce in science and engineering (S&E) occupations has become more diverse, with increasing proportions of Asians, African-Americans and Hispanics and a decreasing proportion of whites. However, while Asian participation in S&E jobs has grown substantially, Hispanics account for just 6 percent of employment in S&E

occupations — which is lower than their representation within the U.S. population ages 21 and older (15 percent) — and African-Americans account for only 5 percent of S&E employment, which also is lower than their representation within the U.S. population ages 21 and older (12 percent).<sup>2</sup>

The number of women in S&E occupations or with S&E degrees has doubled over the past two decades, while the disparity between women and men has narrowed only modestly. In 2013, women constituted 29 percent of S&E workers, only slightly better than the 23 percent recorded in 1993.

Not surprisingly, the Business Roundtable Talent Survey found that most companies struggle to identify qualified candidates with diverse racial, gender and ethnic backgrounds. For example, at least 70 percent of respondents reported problems hiring a diverse workforce for the following occupations: computer and mathematical, architecture, sales, business and finance, life and physical sciences, and social sciences. Moreover, nearly nine in 10 respondents indicated that ensuring gender diversity in data science and computer/mathematical occupations is at least somewhat problematic.

## How Business Leaders Are Addressing the Challenge

To better understand what companies are doing to address the skills gap challenge, Business Roundtable invited its members to submit information on the training efforts they sponsor.

This report presents brief profiles of some of the ways that America's largest employers are working with academia to increase the pipeline of skilled and diverse workers to join their companies and to upgrade and transform the skills of their current employees. The efforts of these member companies are broad and robust and exemplify the goal of providing lifelong

Companies also had difficulty hiring women to fill most skilled trade occupations, such as electricians; tool and die makers; welders, cutters and solderers; mechanics; machinists; commercial pilots; plumbers, pipefitters and steamfitters; and sheet metal workers.

— 2016 BUSINESS ROUNDTABLE TALENT SURVEY



2. <https://www.nsf.gov/statistics/2016/nsb20161/#/report>

learning from the earliest grades through the span of an individual's career. The types of programs described tend to fall into the four general categories described below, and many companies support activities in more than one area.

### SKILL BUILDING IN GRADES K-12

While the various K-12 programs introduce students to a range of specific career paths, they also emphasize basic workplace skills like problem-solving, teamwork and resourcefulness.

- ◉ Many companies work directly with local schools or through other organizations to prepare elementary, middle and high school students to enter and succeed in the workforce and/or college.
- ◉ Some programs allow students to earn college credits or gain an industry certification while still in high school.
- ◉ Some connect students to apprenticeships, mentoring and other work-and-learn activities provided by local companies.
- ◉ Many are focused on preparing students for STEM-related careers and postsecondary study.

### POSTSECONDARY CREDENTIALS AND CERTIFICATIONS

A large number of companies sponsor programs at community colleges, colleges, universities and private training providers to increase the number of people entering the workforce with in-demand college credentials and/or industry certifications.

- ◉ Some companies collaborate directly with universities or community colleges to create programs in STEM or industry certifications related to high-demand occupations. Many of these programs include internships, which have been shown to significantly increase completion of STEM degrees.
- ◉ Other companies sponsor apprenticeships that combine on-the-job training with local classroom instruction to produce a credential and a certification.
- ◉ Many companies provide mentoring and other student support to individuals pursuing specific career paths.

### INCUMBENT WORKER TRAINING

Most companies in this report place a high priority on upgrading the skills of their current employees and giving them opportunities to advance and take on new jobs. While many programs focus on specific technical skills, they routinely incorporate workplace skills such as leadership, decisionmaking and customer engagement. These efforts include:

- ◉ Apprenticeship programs;
- ◉ In-house seminars and instruction;
- ◉ Mentoring;
- ◉ Tuition reimbursement programs for employees attending school to attain an additional credential; and
- ◉ Special programs that send employees to local colleges to learn new skills in courses designed by the company.

## DIVERSE, SKILLED WORKFORCE INITIATIVES

This category reflects an emphasis many companies are making to prepare, recruit and retain a more diverse workforce. Many companies accomplish this by:

- ⦿ Sponsoring K-12 initiatives in underserved communities;
- ⦿ Working directly with colleges with a commitment to minority populations; and
- ⦿ Promoting programs that encourage girls and women to study science and engineering. Notably, several companies have established relationships with local colleges and other training providers to support the recruitment of women and minorities who graduate in high-demand fields.

## America's CEOs Are Taking Note and Taking Action

America's CEOs, through their own efforts and through Business Roundtable and other national organizations, are partnering with academia and government at all levels to close the skills gap and meet our nation's workforce needs. Business recognizes that it has a role to play in addressing the challenges, and it seeks a strong partnership with America's educational institutions at all levels in developing scalable solutions. We are collaborating with our nation's academic and government leaders to recast our educational programs according to today's and tomorrow's needs — from the earliest grades through college, career training and beyond. This effort must be nationwide and involve all levels of government, the private sector, educational institutions and training providers. This report provides some data to direct these most important efforts.

# MEMBER COMPANY **PROFILES**



### Summary of Initiative

3M's **STEP (Science Training Encouragement Program)** targets diverse St. Paul, MN, public high school students for mentoring by company scientists and summer employment opportunities in company laboratories. Participants gain job skills and insights into science careers, and many go on to pursue advanced training in science-related fields. **The Young Scientist Challenge** challenges students to invent or to develop a solution or technology that will impact everyday problems that directly affect them, their families, their communities and/or the global population.

### The Need

Recruiting and hiring qualified STEM, manufacturing and production workers is a challenge. Our 91,600 employees include more than 8,500 STEM-trained scientists and 39,250 skilled manufacturing and production employees. This year, we expect to hire approximately 12,000 employees: 4,000 U.S. hires and 8,000 international hires.

### The Solution

3M is advancing a holistic approach toward development of a pool of skilled and technical workers by supporting school-based education and awareness-raising programs, investing in advanced education and employment training opportunities, and working with community stakeholders and policymakers to promote funding for and leadership in STEM education programs. Programs like **STEP** and **The Young Scientist Challenge** aim to address challenges in recruiting and hiring STEM workers.

### Partnerships and Enabling Public Policies

3M supports initiatives that include the following:

- ⊙ Partnerships with elementary and secondary schools to expose students to STEM opportunities, especially diverse and underrepresented student populations.
- ⊙ Partnerships with relevant colleges and universities to support postsecondary programs that effectively attract, retain and graduate students.
- ⊙ Other partnerships that will advance new opportunities for student success in career-technical education and bolster the skilled workforce pipeline.
- ⊙ Diversity partnerships with groups including the National Organization for the Professional Advancement of Black Chemists and Chemical Engineers, Society of Hispanic Professional Engineers, American Indian Science and Engineering Society, and Society of Women Engineers.

Government support is also required if the nation is to address critical education and workforce issues. Among others, increased government funding should focus on the following:

- ⊙ Robust STEM education programs and two-year vocational-technical programs to create more capacity.
- ⊙ Advanced manufacturing training programs to create a diverse and highly skilled workforce.
- ⊙ Programs that will entice students into the skilled trades, including apprenticeship programs.

### Outcomes/Benefits

With government support, programs like **STEP** and **The Young Scientist Challenge** cultivate high-potential leaders and a productive manufacturing workforce. Robust leadership, innovative employees and increased productivity will drive global competitiveness.



www.3M.com

“Strengthening STEM education is a critical opportunity both to equip young people with the necessary skills to build a successful career and to advance scientific discoveries that will make the world safer, healthier and more prosperous. At 3M, we will continue to do our part to make this opportunity a reality.”



A handwritten signature in black ink, reading 'Inge G. Thulin'.

**Inge G. Thulin**

Chairman of the Board, President and Chief Executive Officer  
3M



www.accenture.com

“Accenture has undergone a major transformation to serve its clients, rotating its business to digital-, cloud- and security-related services.”

### Summary of Initiative

Using digital to learn digital, Accenture is skilling and reskilling its 50,000 U.S. people as well as others across U.S. communities to meet the demands of the digital economy.

### The Need

Accenture has undergone a major transformation to serve its clients, rotating its business to digital-, cloud- and security-related services. This transformation has included reskilling employees, ensuring they have the leading-edge capabilities to meet clients' needs through innovative solutions. More broadly, a U.S. skills shortage is threatening U.S. competitiveness. For example, in 2015 there were 500,000 open computing jobs in the United States but fewer than 40,000 new computer science graduates.

### The Solution

By the end of 2020, Accenture will invest \$1.4 billion in training for its U.S. people while creating 15,000 highly skilled new jobs. The centerpiece of the investment is Accenture Connected Learning, which includes 37,000 online courses and 2,300 learning boards, online forums curated by subject-matter experts that provide employees with anywhere, anytime development opportunities from design thinking to artificial intelligence — including opportunities for certification in areas such as project management and data science. Additionally, our internship programs are critical to growing and advancing interest in technology fields, ultimately helping address the skills gap in the United States.

### Partnerships and Enabling Public Policies

In communities across the United States, Accenture teams with nonprofits through its Skills to Succeed initiative, advancing employment and entrepreneurship opportunities for individuals.

Skills to Succeed at Accenture includes multiple programs focused on veterans and military families. Through the Institute for Veterans and Military Families (in partnership with Syracuse University) and the Accenture Veteran Technology Training Program, Accenture has equipped more than 6,000 military-connected members with the skills, coaching, mentoring and placement services to help them successfully transition to the civilian workforce. At Accenture, we set a goal two years ago to hire 5,000 veterans and their spouses by 2020 — with approximately 2,000 hires as of June 2017, we are making good progress.

In Chicago, we are a proud partner of Wilbur Wright College, which houses the City Colleges' Center for Excellence for IT, where Accenture has taken an active role in enhancing and shaping the information technology (IT) and cybersecurity curriculum. In Texas, through a 50-person internship pilot, we're working with the San Antonio's Eastside Education and Training Center, Sam Houston High School, and Alamo Colleges, enabling young people from disadvantaged communities to build the skills necessary for entry-level jobs in industry.

### Outcomes/Benefits of Programs

- ⦿ **In fiscal year 2016, we reskilled 11,000-plus people — more than 20 percent of our U.S. workforce — in New IT areas and in fiscal 2017 plan to double that number** to close to 25,000.
- ⦿ Our people receive more than **45 hours of training and development** each year.
- ⦿ Our 2017 summer internship program has more than 450 college student interns across 26 locations. Approximately **90 percent of our interns become full-time employees** when they graduate.
- ⦿ Through Skills to Succeed, Accenture has equipped nearly **400,000 people in the United States** with employment and entrepreneurship skills.



**Julie Sweet**

Chief Executive Officer — North America  
Accenture



### Summary of Initiative

Our partnerships with local technical schools are designed to provide current employees with the skills that we need and that have become increasingly difficult to attract externally. For our longer-term talent pipeline, we work with local organizations to reintroduce young people in our plant communities to careers in manufacturing.

### The Need

AK Steel is a leading producer of flat-rolled carbon, stainless and electrical steel products. We employ approximately 8,500 men and women at eight steel plants across six states. Our operations demand skilled workers, and in recent years finding and attracting this talent has become increasingly difficult. We see this as a long-term issue.

### The Solution

Across our plant communities, we work with local technical schools to develop tailored programs to provide skills training to current employees — growing our own talent in these hard-to-fill positions. This approach focuses on the specific need at each operation and provides new opportunities for our employees.

At our Mansfield, OH, facility, we partnered with Madison Adult Career Center to provide certification to employees in structural welding. At our Dearborn, MI, plant, we have electrical apprentices in a program designed with Henry Ford Community College. We developed with Zane State College an electrical maintenance program to develop our Zanesville, OH, workforce. One of our Zanesville employees recently said that he is now in a position that is “the best fit for him and the company.”

Looking at the longer term, we partner with local organizations to connect with young people to introduce them to career opportunities in manufacturing. Part of the skills gap we’ve faced in many of our plant communities is decreased interest in manufacturing careers. We work with local organizations to provide tours and career days. We are part of the Middletown, OH, Chamber Education and Career Path Task Force committee, a group of local business and education leaders focused on increasing awareness and interest in manufacturing jobs now and in the future.

### Partnerships and Enabling Public Policies

In addition to the organizations named above, we have partnered with Cincinnati State Technical and Community College; Butler Tech (OH) Adult Workforce Education Center; Butler County (PA) Vocational Technical School; local Junior Achievement chapters; Allegheny (PA) Intermediate Unit Engineering Apprenticeship Program; Muskingum County Chamber of Commerce; and Richland (OH) Development Committee.

### Outcome/Benefits

These partnerships are providing our plants with the skilled workers we need. The training provides new career development for our people and allows us to develop this skilled talent internally given the external market challenges. Our relationships with local organizations reintroduce young people in our plant communities to viable career paths in manufacturing that provide a good-paying job with good health care and other benefits.



**Roger K. Newport**  
Chief Executive Officer  
AK Steel Corporation



[www.aksteel.com](http://www.aksteel.com)

“Both our short-term and longer-term initiatives to attract and maintain our skilled workforce are necessary to continue our heritage of quality and innovative steelmaking.”



<http://aep.com/careers>

“Developing the data analytics skills of our workforce is key to AEP’s efforts to deliver the best customer experience and provide the energy products and services our customers want and need.”

### Summary of Initiative

American Electric Power (AEP) used external hiring and a variety of employee development strategies to build the internal advanced analytic capabilities needed to effectively leverage data to solve business problems and guide decisions.

### The Need

AEP is focused on building a smarter energy infrastructure and delivering new technologies and custom energy solutions to our customers. Advances in technology within the energy industry, such as sensors and smart meters, provide more opportunities than ever before to use data to improve customer service and ensure efficient, reliable operation of the electric grid. To harness the full potential of the data, AEP needed to develop more advanced analytic capabilities such as modeling and data munging on its staff.

### The Solution

AEP has grown the skill sets of its existing employees, hired externally and supplemented with contractors to meet the need for advanced data analytics capacity. The company created a center of excellence to provide guidance and direction for the development of these capabilities. Major business units also developed these skills in their organizations and partnered with the center of excellence. To grow internal talent, AEP provided additional education and training to high-performing employees who already had some core analytics skills. AEP utilized a number of approaches to foster skill development and learning including instructor-led courses, experiential learning and communities of practice. Some examples include:

- ⦿ A cross-functional analytics board consisting of director-level leaders who meet to identify opportunities to apply data analytics and share experiences and techniques used;
- ⦿ Analytic practitioner learning seminars;
- ⦿ Side-by-side learning with external partners during which AEP employees have the opportunity to put skills into practice; and
- ⦿ Participation in external partner networking opportunities, such as a synergy series through which participants can learn from others’ experiences and flash sessions that allow organizations to pose a specific challenge or question for others to share their experiences and lessons learned.

In late 2015, AEP held a data challenge — dubbed the “Big Data Olympics” — to demonstrate the value analytics could bring to the business. Two of the projects addressed were customer segmentation and workforce optimization.

### Partnerships and Enabling Public Policies

Partners were important in providing guidance on AEP’s approaches, as well as training resources and talent referrals. AEP partnered with IBM on the Big Data Olympics, and EY provided training on various tools and programming. Additionally, the Columbus Collaboratory — a consortium of companies across seven different industries that is focused on innovation — has facilitated networking, learning, tools and talent referrals.

### Outcomes/Benefits

Since 2016, AEP has hired seven new employees with the advanced analytics skills needed and has grown the skills of 60–70 existing employees across the business. Ultimately, the benefits are the outcomes of the analyses that are completed, the business decisions they drive and the problems they solve.



**Nicholas K. Akins**  
Chairman, President and Chief Executive Officer  
American Electric Power

### Summary of Initiative

As a leader in the effort to address both the skills and the training gaps in the insurance and financial services industry, Aon has launched its inaugural U.S. Apprenticeship Program, a two-year program in coordination with City Colleges of Chicago. Apprentices gain professional experience as paid, full-time colleagues while managers cultivate talent suited to Aon's roles and business objectives. Aon works with City Colleges to train and provide the skills the workers of the future need most, thus creating a viable job pathway for students.

### The Need

In today's rapidly changing world and work environment, companies are struggling to match the skills they need with the people equipped with the right training. Recruiting, hiring and — often most difficult in entry-level positions — retaining employees with the right skills can be difficult. From the perspective of prospective workers, the cost of college creates either a barrier to entry to a career job or student loan debt that impairs a healthy financial future. Both of these issues have a negative impact on productivity and economic growth.

### The Solution

The Aon Apprenticeship Program signifies the evolution of our talent strategy: We are connecting with a wider pool of prospective colleagues earlier in their careers and cultivating future talent through on-the-job training and development that is specific to Aon's roles and business objectives. The apprentices are able to gain valuable experiences in the areas of account management, client support, financial analysis, human resources and information technology. Ultimately, this program increases productivity and fills the need for a talent pipeline for roles that don't require a four-year bachelor's degree.

### Partnerships and Enabling Public Policies

Through our partnerships with Harold Washington and Harper Colleges, Aon will hire 25 apprentices each year for the next four years. Harper College and Harold Washington College have worked with Aon to create a specialized curriculum for Aon apprentices to take classes on campus. Upon completion of the apprenticeship program, graduates will obtain an associate degree in business, an industry apprenticeship accreditation and a full-time position at Aon.

### Outcomes/Benefits

The apprenticeship program provides unique attention and support to individual apprentices from both a professional development and an academic perspective. Aon expects this first group of apprentices to receive an associate degree in business at the end of the 24-month program.

Apprentices are full-time Aon employees who work downtown at the Aon Center or in Aon's Lincolnshire office in Illinois. In addition to comprehensive on-the-job training, work experience and mentorship, apprentices receive:

- ⦿ A competitive salary and full employee benefits;
- ⦿ Paid tuition at our partner schools;
- ⦿ Leadership exposure; and
- ⦿ A full-time job offer upon completion of the apprenticeship program.



[www.aon.com](http://www.aon.com)

"Building a highly skilled and diverse workforce is important not only for the U.S. economy but also for the future of our industry. We're investing in apprenticeships because they will help us harness untapped potential and create the future leaders for our sector."



A handwritten signature in black ink that reads "Greg Case".

**Gregory C. Case**  
President and Chief Executive Officer  
Aon



<http://about.att.com/mediakit/ourpeople>

"The technology that runs our business is changing fast, requiring new capabilities and continuous learning. We're giving employees tools to adapt, and it's great to see them update and enhance their skills."

### Summary of Initiative

We're in the midst of one of the most significant transformations in our 138-year history. To meet this evolution, we're giving our nearly 270,000 employees multiple avenues to reskill themselves, as well as investing in the workforce of tomorrow.

### The Need

We've evolved from a telephone company to a mobility company and now to a data-powered entertainment and business solutions company. It's critical that we transform our current workforce to stay aligned with the changing needs of the business. This transformation also includes a broader need to prepare students and the future workforce for tomorrow's jobs.

### The Solution

Rather than the wholesale hiring of new talent from outside, we're providing our nearly 270,000 employees with multiple options to reskill themselves. *Fortune* magazine recently described this effort as "what may be the most ambitious program for retraining workers in the history of American business" and as "a model for other companies."

Our corporate university delivers our flagship training program and is recognized as among the best in the country. In 2016 we invested about \$250 million in training employees, provided about 20 million hours of training and invested nearly \$34 million in tuition aid.

The effort is about **transparency and empowerment — providing tools, processes and resources that help employees take control of their own development and careers**. For example, we recently launched a new online tool, the Personal Learning Experience, through which employees can plan, access, manage and track learning. They can search for jobs based on their current competencies and then see and link to the training required for those jobs they are most interested in. Our Career Intelligence portal helps employees understand which jobs are "hot," their potential within the company, the skills they require and the steps employees can take to close any learning gaps.

### Partnerships and Enabling Public Policies

AT&T collaborated with Udacity to create a series of "Nanodegrees" that allow employees to earn credentials in areas like web development, data analysis and programming. AT&T worked with Georgia Tech to develop a two-year online master of science in computer science that can also be taken through Udacity's platform (tuition for current employees is covered). In addition to Udacity and Georgia Tech, we're working with external partners — like Coursera and numerous universities — to create opportunities for specialized degrees or certifications.

### Outcomes/Benefits

- ⊙ Increasingly, employees are able to immediately apply their new skills in their existing positions or transition into a new role. For management jobs in our Technology and Operations group, for example, internal applicants who have completed reskilling training were more than twice as likely last year to be hired for one of those jobs as applicants who have not. And they were four times as likely to advance their career.
- ⊙ Employees have completed 2.5 million web-based transformation courses.
- ⊙ More than 25,000 learners worldwide, including nearly 2,000 AT&T employees, have enrolled in Nanodegree credential programs.



**Randall Stephenson**  
Chairman and Chief Executive Officer  
AT&T Inc.

### Summary of Initiative

Ball Corporation's science, technology, engineering and math (STEM) initiatives are designed to help develop a pipeline of future engineering employees — for both our aerospace and our high-speed manufacturing beverage, food and aerosol can businesses.

### The Need

Ball Corporation supplies innovative, sustainable packaging solutions for beverage, food and household products customers, as well as aerospace and other technologies and services primarily for the U.S. government. Ball Corporation and its subsidiaries employ 18,450 people worldwide.

The STEM education focus area is a key business driver, especially for our aerospace business, which relies on top engineering talent to be competitive. Waves of retirements and a diminishing supply of technical talent poses future risks to this business. Within the Engineering organization, which includes technicians, engineers and technical support personnel, 33 percent of the population is eligible to retire in the next three years.

### The Solution

To help ensure a robust pipeline of future technical talent, Ball works across the spectrum, from elementary to college, to promote STEM education. Over the past several years, the Ball Foundation and Ball Corporation have invested \$3.3 million, and employees have volunteered 23,559 hours to support STEM-related scholarships and education programs.

In 2016, Ball donated \$179,000 to fund student-related academic support for college students studying STEM disciplines.

Working in collaboration with the Front Range Community College, Ball helped develop a precision machining program. The curriculum aligns with our business needs, and we offer mentors to participating students.

At the elementary and middle school levels, Ball supported programs providing students with hands-on experience.

Summer Engineering Experience for Kids (SEEK), a three-week camp, is designed to increase elementary school students' aptitude in math and science and further their interest in pursuing STEM career fields.

Colorado FIRST (For Inspiration and Recognition of Science and Technology) is a national nonprofit organization that operates after-school robotics programs for young people ages 6–18 in the United States and internationally and is designed to inspire young people to be science and technology leaders.

### Partnerships and Enabling Public Policies

Ball and the Ball Foundation partner with the University of Colorado; Regis University; Front Range Community College; and elementary, middle and high schools throughout Boulder and Broomfield, CO.

### Outcomes/Benefits

Sponsorship and participation in these STEM educational opportunities has provided the company:

- ◉ An opportunity to foster and encourage elementary and middle school students to continue STEM-related study and pursue STEM-related careers.



[www.ball.com](http://www.ball.com)

"Ball's investment across the STEM spectrum results in more learners having access to real-world, relevant and challenging experiences that excite and prepare them to become our future employees."



A handwritten signature in black ink that reads "John A. Hayes".

**John A. Hayes**  
Chairman, President and Chief Executive Officer  
Ball Corporation

“We want to be the best place to work for our employees. Having the right mix of training, development opportunities, benefits and compensation helps us attract and retain talented teammates and is core to our approach to responsible growth.”

Summary of Initiative

In 2016, we introduced the Consumer Academy, an innovative employee learning and development program designed to reinforce our customer-centric culture and foster career growth and professional development for our Consumer Bank employees, including those in Retail Client Services, Home Loans and Consumer Lending, Small Business, financial centers, and online investing and trading through Merrill Edge. The Academy creates a single, unified training model, combining extensive training and skill development programs with defined career paths. One of many recent investments we’ve made in our employees’ growth and our clients’ experience, the Consumer Academy will continue to have lasting impacts on our people as well as our business.

The Need

Making it easier for our employees to expand and continue their careers at Bank of America is essential to growing responsibly. Our focus on career development allows us to retain talent and institutional knowledge while driving stability across all we do for customers, clients and each other. To support employees in achieving their personal career goals and better serve our customers and clients, we must provide resources that help them grow in their current role, build new skills and take on new responsibilities, including training and professional development opportunities with clear, distinct career paths. Additionally, it’s essential to simplify and enhance employees’ onboarding and ongoing development experience, so they can focus more time on improving clients’ financial lives.

The Solution

Since 2016, the Consumer Academy has helped create a strong talent pipeline and has provided employees with professional development opportunities that help them progress in their careers and better serve our clients by:

- ⦿ **Enhancing employee training**, including centralizing and simplifying learning through a unified training model with resources tailored to both new hires and in-role teammates;
- ⦿ **Improving the new hire onboarding experience** by aligning employees with dedicated training managers;
- ⦿ **Creating defined career path opportunities** through targeted mastery programs that prepare employees for their next role;
- ⦿ **Enhancing client service expertise** to better equip employees to help clients achieve their financial goals; and
- ⦿ **Strengthening Bank of America’s brand in the marketplace and continuing to attract exceptional talent** by partnering with the company’s Global Talent Acquisition team.

Partnerships and Enabling Public Policies

Bank of America delivers the Consumer Academy in partnership with Degreed, our learning portal administrator, providing access to training pathways that guide employees’ skill and professional development.

Outcomes/Benefits

The Academy continues to drive business results in a variety of ways, including:

- ⦿ Enhanced employee satisfaction with training;
- ⦿ Decreased employee attrition in key roles; and
- ⦿ Increased ability for employees to determine and achieve their career goals.



**Brian Moynihan**  
Chairman and Chief Executive Officer  
Bank of America Corporation



## Summary of Initiative

Using targeted skills development programs, Bechtel develops construction workers across required areas, with a focus on skilled craftsmen, high-performing teams and front-line transformational leaders. Through an analysis of capabilities and qualities that recognizes employee strengths and areas for improvement, Bechtel builds our pool of skilled talent on projects around the world.

## The Need

Bechtel's success on projects is directly attributable to the quality of construction employees we recruit, develop and retain. Therefore, we must prepare and empower front-line construction employees through skills training and a strong leadership culture that results in high safety, quality and productivity (SQP) performance. Doing so allows us to retain and grow skilled craft employees and supervisors, which ultimately lowers our recruitment requirements.

## The Solutions

Through evaluation and training, Bechtel develops a skilled workforce that capably tackles technically challenging and complex engineering and construction projects. The Capability Assessment Program evaluates entry-level craft employee skills and places the applicant in the proper position to ensure success. That worker then receives skills gap training to increase capability and promotion potential.

The intense four-week structured Construction Immersion program accelerates learning for our early-career construction professionals by emphasizing execution, work planning, and Bechtel's culture and processes.

The High-Performance Crews (HPC) program is aimed at fostering field leaders' essential relationships with internal and external customers by applying vital leadership behaviors. HPC helps field leaders meet the expectations they are measured against on Bechtel projects and in the construction industry. The program utilizes an integrated learning approach.

The Bechtel Field Leadership Assessment develops front-line leaders through an analysis of core leadership qualities (Character, Communication, Competence, Connection, Covenants). Supervisors and employees together recognize strengths and identify skill development opportunities for roles of greater responsibility.

## Partnerships and Enabling Public Policies

Partnerships with community colleges are an additional source for skilled local entry-level craft. For example, a successful partnership has been formed with Alvin Community College in Alvin, TX. Bechtel has a source for quality employees, and the college builds a positive placement rate for its graduates. This partnership for workforce development efforts leads to additional funding for the college's programs through Texas Workforce Commission grants to provide short-term training.

## Outcomes/Benefits

Retention rates from our skills programs with community colleges are approaching 80 percent, and since January 2015, 24 pipefitters attending Alvin Community College alone have been placed on a major Bechtel project in Texas. Approximately 60 percent are military veterans transitioning to the civilian workforce. Students are rated on a five-point scale, and a high score, plus the National Center for Construction Education and Research certification, validates the graduate. Retention and promotion rates for these graduates are statistically higher than craft hires from the general public.



[www.bechtel.com](http://www.bechtel.com)

“Operating domestically and internationally requires Bechtel to ensure its employees have the skills necessary to operate in a technically challenging, globally competitive environment. Workforce training ensures our employees can compete and win.”



BRENDAN

**Brendan Bechtel**  
Chief Executive Officer  
Bechtel



Corporate.BestBuy.com

“Best Buy is committed to providing underserved youth hands-on access to the technology training and tools they need to be successful in school and prepared for jobs of the future.”

### Summary of Initiative

Best Buy is helping bridge the opportunity gap by providing underserved youth the critical technology skills that put them on a successful path for college and career.

### The Need

Technology know-how is crucial for young people preparing to enter the job market. Yet according to the Bureau of Labor Statistics, underserved youth are unprepared for jobs of the future.

- ⦿ 1.4 million jobs over the next decade (77 percent) will require tech skills, while only 400,000 people will be trained for them.

### The Solution

Through our large pool of talented employees and network of 1,400 stores, we are in a good position to bridge the opportunity gap. Our signature programs provide underserved teens access to the technology, tech education and workforce readiness skills needed to be successful in future careers.

- ⦿ **Best Buy Teen Tech Centers** are free, year-round, after-school programs where teens can develop critical skills through hands-on activities exploring programming, filmmaking, music production and design. We partner with local nonprofits to host Teen Tech Centers in underserved communities, and our Geek Squad agents and sales associates volunteer their time to help teach important tech skills. By 2020, we plan to nearly triple the number of Teen Tech Centers from 11 to 30.
- ⦿ **Geek Squad Academy (GSA)** offers free two-day technology camps for youth ages 10–18 throughout the country. Classes focus on exposing students to robotics, programming, music creation, digital animation and more. In 2017, GSA will reach 8,500 teens through 40 camps in 39 cities.
- ⦿ **EveryoneOn Partnership:** Best Buy also partners with EveryoneOn, which works to close the digital divide and teach digital literacy skills to teens and families living in public housing communities.

### Partnerships and Enabling Public Policies

Best Buy partners with national nonprofit organizations to advance our mission to help underserved youth develop technology skills in preparation for jobs of the future. In 2017 our 11 national partners include Common Sense Media, Girls Who Code, GRAMMY Foundation, Hispanic Heritage Foundation, Mouse, Youth Radio and more. Through our Community Grants program, we also support numerous local nonprofit organizations that help underserved teens learn tech skills.

As resources for after-school programming continue to be a challenge for many schools and nonprofit organizations, the need has never been greater to help ensure that youth enter the workforce having the critical skills they need for success.

### Outcomes/Benefits

Over the past decade, Best Buy has supported more than 4.5 million youth through Best Buy Foundation partnerships with local nonprofit organizations. In addition, according to a recent survey of students who participated in our Teen Tech Centers, 92 percent believe they will use the skills acquired in future careers, and 94 percent plan to continue their education beyond high school. We continue to develop new ways to measure long-term outcomes.



**Hubert Joly**  
Chairman and Chief Executive  
Best Buy Co. Inc.



## Summary of Initiative

Our **Student of Technology** initiative embeds technology culture across BlackRock to improve performance by promoting technology education, creating community and enabling employees to effectively utilize a range of technology resources.

## The Need

Technology has differentiated BlackRock since our founding. It resides at the core of how we invest, manage risk and connect with clients. BlackRock focuses on **building the technology fluency of all employees** — not just those in a technology function — to work smarter and faster and deliver more impactful solutions to clients.

## The Solution

Promoting technology education — We are developing senior leaders through a **reverse mentoring program**, pairing them with junior tech-savvy mentors who teach them about topics ranging from social media to artificial intelligence. We are providing information through a **Student of Technology Portal**, which serves as a “one-stop shop” with content about training, trends, events and overviews of client-facing tech products. We are piloting a **Student of Technology program** in partnership with Coursera to include online courses from 140 top global university partners. The program is designed to accommodate employees from all backgrounds.

Creating a technology community — We host yearly **Hackathons**, inviting all employees to create tech solution prototypes. By using a process that connects ideas curated from throughout BlackRock to our engineers’ coding expertise, we’ve scaled the event well beyond our traditional tech businesses. We convene in-person and virtual “Tech Fests” and **Town Halls** focusing on key topics including cybersecurity and enabling hands-on experiences to drive adoption.

Enabling employees through BlackRock apps — Our **OneBlackRock app** “makes BlackRock smaller” by facilitating the identification of experience and expertise across BlackRock. A **Student of the Markets app** delivers real-time DIY education.

## Partnerships and Enabling Public Policies

BlackRock is committed to global tech education, donating \$1 million to **Code.org** to support free online tech curriculum development, and hosted a **Girls Who Code** Summer Immersion Program to teach high school girls to code. We partnered with Georgia Tech and Berkeley to launch the Hallac Scholars Program, which offers scholarships and internships to students from low socioeconomic backgrounds studying STEM subjects.

## Outcomes/Benefits

Many client solutions can be traced back to **Hackathon** ideas, including **Aladdin Risk for Wealth Management**. This year more employees than ever participated in our Hackathon with 460 ideas submitted from 45 departments, and we had as many non-tech as tech participants, exemplifying the reach across the company. Many executive team members who’ve spent their careers in financial services are seeing how social media and other consumer apps can affect clients. Many are learning to code. Nearly half of all employees adopted the **OneBlackRock app** within weeks of launch. Nearly 5,000 people attended technology Town Halls globally. Our TechFest brought more than 35 percent of our New York office community together.

“America’s largest companies, many of which are struggling with skills gaps in filling technical positions, must improve internal training to compete for talent and fulfill their responsibilities to their employees.”



**Laurence D. Fink**  
Chairman and Chief Executive Officer  
BlackRock, Inc.



boeing.com

“A vibrant and growing economy requires a strong talent pipeline to lead the next generation of innovation. From the public policies we advocate for to the investments we make as a company, we’re committed to engaging the aerospace leaders of tomorrow in the classrooms they’re in today.”

### Summary of Initiative

Boeing takes a holistic approach to ensuring the company’s talent pipeline supports a globally competitive workforce that possesses the 21st century skills required to participate in the economy of tomorrow. In addition to strategies such as targeted charitable investments (\$163 million in 2016), shaping of public policy, investing in continuing education (\$1 billion spent on employee tuition since 1998), and promoting diversity and inclusion (100 percent Corporate Equality Score from Human Rights Campaign), we utilize employer-driven training partnerships across our enterprise to fulfill a variety of skills pipeline needs.

### The Need

Boeing, like the aerospace and defense industry in general, has a highly experienced workforce that is nearing retirement. At the same time, the skills required to produce cutting-edge products such as the 787 Dreamliner and the CST-100 Starliner are becoming only more advanced as we increase the use of robotics, 3-D printing, augmented reality, mechatronics and advanced materials in our production system.

### Partnerships and Enabling Public Policies

In an employer-driven training partnership, a company like Boeing works with partner schools and government to articulate skills needs and assist in curriculum design and program implementation. And we ultimately hire people trained by these partner schools. This highly effective model ensures that students have the skills employers require for in-demand, well-paying jobs.

### The Solution and Outcomes

Boeing employer-driven training partnerships:

- ⊙ **High School Pipeline:** In Oregon, South Carolina, Texas, Utah and Washington, we have developed programs that provide training and work-based learning (paid internships and apprenticeships) to students beginning their junior year of high school. In Texas, more than 1,250 students have received college credit and work-based learning in science, engineering, operations and aerospace tracks. In Washington, Boeing hired more than 150 high school students from partner high schools in 2015.
- ⊙ **Major Workforce Pipeline:** In South Carolina, we partnered with ReadySC, the state and Trident Technical College to create a program that transformed what was a relatively small supplier outpost into a cutting-edge factory that produces the world’s most advanced wide-body aircraft — the 787 Dreamliner — in the space of only a few years. The Boeing-ReadySC partnership has resulted in the prehire training of more than 4,500 Boeing South Carolina employees.
- ⊙ **Supplier Talent Pipeline:** We are only as healthy as our supplier partners. That is why we worked with the U.S. Department of Labor and Washington state partners to create the highly regarded Air Washington program. More than 1,500 program graduates are currently employed in the aerospace industry in Washington, most by our supplier partners.
- ⊙ **Underrepresented Communities Pipeline:** In Missouri, Boeing partnered with the state and St. Louis Community College to create the Assembly Mechanic Program. This completely free and highly selective program culminates with an interview for a job at Boeing. More than 380 program graduates have been hired to date.



**Dennis A. Muilenburg**  
Chairman, President and Chief Executive Officer  
The Boeing Company

## Summary of Initiative

The talent shortage in automotive engineering, manufacturing and technology skills is a widely known challenge for the automotive industry and manufacturers. BorgWarner invests in growing and developing our talent through many various initiatives. One effort is to work with public workforce and educational partners, knowing that a strong partnership with these organizations will be crucial to our success.

## The Need

The future workforce demands are daunting: With the baby boomer generation shifting into retirement, by 2025, 2 million manufacturing jobs will go unfilled across the country. A strong engagement among industry, educators, career counselors, parents and students is imperative to ensuring a skilled and talented labor force to support economic growth in the United States.

Simultaneously, the automotive industry is undergoing a time of unparalleled technical advancements. These changes have resulted in a shortage of qualified talent for two reasons. The first is that the unemployment rate for manufacturing and transportation is rather low (approximately 4.0 percent), and the second is that availability of talent with the required skill set is lacking.

## The Solution

To help solve this talent gap, BorgWarner participates in various partnerships including:

- ◉ State of Michigan's Skilled Trades Training Fund (STTF) program. STTF provides funding for employers to train and develop current and new employees to upgrade their technical skills.
- ◉ Michigan Alliance for Greater Mobility Advancement (MAGMA). MAGMA is a consortium of educational institutions, original equipment manufacturers, tier suppliers and workforce organizations focused on the automotive industry's skills and training needs. MAGMA offers a platform for these stakeholders to work together to identify and implement creative solutions to address existing and future talent demands.

## Partnerships and Enabling Public Policies

The training support of partners such as the state of Michigan's Workforce Development Agency, Talent Investment Agency and Michigan Works! that implement programs such as STTF is important to our ability to retain, develop and attract a skilled workforce. The United States can be a leader in addressing existing and future talent gaps by facilitating meaningful public-private initiatives that help develop the workforce for the present and for tomorrow.

## Outcomes/Benefits

BorgWarner received approximately \$180,000 in STTF training grants from 2016 to 2017 to train more than 140 employees, which allowed employees to apply new skills to their jobs. The STTF program also gave BorgWarner structure for our internal training processes. STTF initiated conversations internally, which evolved into our internal teams assessing and prioritizing workforce training plans annually. As a result, we accelerated new functional development programs (Supply Chain, Program Management, Sales, Plant Management and Finance) throughout our company.

MAGMA has been able to leverage more than \$4.3 million to support training in advanced energy storage, hybrid electric battery engineering and vehicle electrification, which is aligned to our propulsion strategy. We anticipate this partnership with MAGMA will result in enhanced technical training for our employees.

"The ability to be innovative is essential in today's manufacturing industry. BorgWarner develops high-tech innovations that drive the world forward, while attracting the best and brightest."



**James Verrier**  
President & CEO  
BorgWarner Inc.



www.chevron.com

“Supporting STEM and tomorrow’s workforce is critical to the success of our business. We strive to build lasting relationships to create progress and prosperity now and for generations to come.”

### Summary of Initiative

The Appalachia Partnership Initiative (API), launched in 2014 with a five-year, \$20 million funding commitment from Chevron, is a partnership guided by the shared vision of the Allegheny Conference on Community Development, Claude Worthington Benedum Foundation, The Grable Foundation and Chevron, with RAND Corporation providing performance data. Our goal is to support education and workforce development programs that create long-term, sustainable economic opportunity for residents of the region. The broader goal is to invest in programs now that will arm our students and workforce with the education and skills needed to compete for the jobs of today and tomorrow.

### The Need

In the past decade, a dynamic shift has taken place in the tri-state region of western Pennsylvania, eastern Ohio and northern West Virginia. Once home to coal and steel, the region is re-emerging as a leader in advanced manufacturing, energy production, health care, higher education and technology. A 2012 survey of 37 companies by the Allegheny Conference revealed that, in the greater Pittsburgh region, those companies planned to obtain 7,000 new hires by 2020. That study also determined that a shortage of science, technology, engineering and mathematics (STEM)-based skills in the local workforce could prevent companies from filling those jobs. It is critical to align investment and resources to develop a skilled workforce that can successfully compete for these opportunities.

### The Solution

The API partners provide not only funding but also policy leadership, access to resources and information, volunteers, and recognition for programs and partners working to achieve our shared mission: increasing access to STEM education, workforce training and career awareness. Major investments of these resources include establishment of the Chevron Center for STEM Education and Career Development at the Carnegie Science Center; establishment of K-12 Fabrication Laboratories (Fab Labs) in Fayette County and Pittsburgh targeting hands-on STEM learning; The Education Alliance helping eight West Virginia schools to further develop in-school STEM programs; miner retraining programs; and the ShaleNET technical training program in partnership with local community colleges for scholarships, curriculum development and instructor training.

### Partnerships and Enabling Public Policies

API is the result of an active partnership among Chevron, aligned private foundations and the Allegheny Conference on Community Development. In addition to Chevron’s funding, API has generated \$9.9 million in public and private funding. The entirety of these funds has gone directly to programs and organizations in the API portfolio of projects.

### Outcomes/Benefits

The API mission is a long-range plan and partner commitment to establish quality STEM education and workforce development programming. Thus far, the API-sponsored programs have provided 383 scholarships, 71 technical instructor professional development programs, 100 regional companies involved in workforce programs and support for 768 veterans transitioning to work.



**John S. Watson**

Chairman of the Board and Chief Executive Officer  
Chevron Corporation

## Summary of Initiative

Cigna's strategy is delivering quality, affordable and personalized solutions for our customers and clients by leveraging our insights, brand, talent and localized approach. Critical to this focus is Cigna's Educational Reimbursement Program (ERP), which leverages a growth mind-set — fostering a collaborative and positive environment in support of our employees' growth and development.

## The Need

Cigna's talent pool is shrinking as baby boomers retire and people remain unsure about their place in the U.S. workforce.

## The Solution

Cigna is committed to doing a better job of matching tuition dollars and upskilling efforts to its strategic business objectives and management of its talented workforce.

## Partnerships

Cigna partnered with the Lumina Foundation and Accenture to conduct a return on investment (ROI) on Cigna's ERP. Lumina mobilizes employers to use postsecondary attainment to build and retain talent through its goal: Increase the proportion of Americans with high-quality degrees, certificates and other credentials to 60 percent by 2025. The Lumina/Accenture 2016 findings:

1. Participants are retained, promoted and transferred more frequently than non-ERP employees, resulting in an ROI of 129 percent and net savings of \$20.1 million from 2012 to 2014. For every dollar invested Cigna gets back \$1 and avoids \$1.29 in additional cost.
2. Between 2012 and 2014, ERP has averaged \$5.0 million in tuition spend annually. Per participant, this equates to \$4,199 in average annual spend.
3. ERP has an annual utilization rate of 3.7 percent (three-year utilization rate of 5.8 percent) with an average of 1,189 participants annually — 2,213 total participants between 2012 and 2014.
4. Participants are retained, promoted and transferred more frequently than non-ERP participants, which provided Cigna \$35.8 million in benefits (savings) from 2012 to 2014.

## Outcomes/Benefits

1. Increased annual reimbursement for undergraduate and graduate programs in certain strategic areas of study: actuarial science, cybersecurity or health care management.
2. Additional cost allowance (up to \$1,500 annually) for educational materials like textbooks and other study materials.
3. Partnership with Advisory Services for employees considering professional or career development.
4. Increased number of tuition deferment options through education partners (approximately 40 percent).
5. Due to changes, as of December 31, 2016, the number of ERP U.S. participants had increased by more than 20 percent.



[www.cigna.com](http://www.cigna.com)

"Cigna's strategic focus is centered on delivering high-quality, affordable and personalized solutions for our customers and clients by leveraging our insights, brand, talent and localized approach."



A handwritten signature in black ink, appearing to read "David M. Cordani".

**David M. Cordani**  
President and CEO  
Cigna



www.cisco.com

“We must provide students and workers the ability to develop the right skills so they can participate in a world where technology is pervasive across every aspect of our lives.”

### Summary of Initiative

Launched in 1997, Cisco Networking Academy, a world-leading information technology (IT) skills and career building program, develops the talent needed to power the digital economy. To date, the program has touched the lives of nearly 7 million people across 170 countries by providing the foundational digital and entrepreneurship skills that will enable them to prepare for IT and networking careers in a range of industries.

### The Need

By 2020, it is estimated there will be 1.5 million new digitization jobs across the globe.<sup>1</sup> However, many jobs go unfilled because today's students lack the skills employers seek. For example, 90 percent of organizations currently have an IT skills shortage, while 75 percent of educators and students feel there is a gap in their ability to meet the skills needs of the IT workforce.<sup>2</sup>

### The Solution

Cisco Networking Academy, the company's largest and longest running corporate social responsibility program, provides a comprehensive learning experience — online courses supported by interactive learning and network simulation tools, classroom instruction, integrated assessments with detailed feedback, and hands-on learning activities — preparing individuals for IT and networking careers in a range of industries.

Courses are taught in classrooms around the world and online through a cloud-based learning and collaboration environment. Students learn to solve problems in real time at hackathons, boot camps and skills competitions like NetRiders, developing in-demand skills. Students are also provided with career resources and connections to employers seeking IT talent.

### Partnerships and Enabling Public Policies

Networking Academy works with a global network of more than 9,600 educational institutions, more than 1,700 of which are in the United States, to establish local initiatives that leverage Networking Academy courses. Additionally, Cisco partners with governments around the world to establish regional and local initiatives that leverage Networking Academy to promote workforce readiness and socioeconomic development.

### Outcomes/Benefits

Cisco Networking Academy is the largest educational program of its kind, changing lives, education and economies:

- ⦿ 6.9 million students have been reached to date, more than 1.3 million of whom are in the United States.
- ⦿ In FY2016, 1.09 million students in 9,600 academies across 170 countries were enrolled in courses taught by 20,000-plus instructors. Nearly 120,000 students were reached in FY2016 in the United States.
- ⦿ Cisco has set a goal to reach 2 million students annually through Networking Academy by 2021.
- ⦿ 21 percent of Networking Academy students worldwide are female.
- ⦿ To date, the program has helped 1.4 million students get a new job; 93 percent of students indicated that they use their skills in their daily lives.
- ⦿ Cisco Veterans Program, a collaboration with the U.S. military to bring the Networking Academy curriculum to bases, has locations on 22 U.S. military installations, with more than 66,000 U.S. military personnel trained to develop and advance their IT skills.

1. IoE/IoT Employment Opportunity Creation Analysis, *Gartner*, 2014.

2. Fast Track to the Future, *IBM*, 2012.



**Chuck Robbins**  
CEO  
Cisco Systems, Inc.



### Summary of Initiative

Experiential learning at Comcast Cable has expanded to become a foundational element of employee readiness during the onboarding process and helps close the skills gap for newly hired employees. The goal of experiential learning is to immerse learners in environments where high emphasis is placed on direct application and employees can be released from the learning environment to their jobs with higher degrees of proficiency, reduced learning curves and higher employee retention.

### The Need

A key objective for Comcast Cable in 2017 is creating great customer experiences for its base of more than 29 million customers across the full suite of products and services. Comcast Cable has a workforce of approximately 91,000 employees, 63 percent of whom are in direct contact with customers — in person, online or over the phone — as a regular part of the job. These employees must be able to address customers' concerns, questions, challenges and requests with a high degree of proficiency and confidence that will ensure customers are satisfied with each interaction and their issues have been appropriately resolved. As a result, employees must be equipped with the skills, expertise and tools to perform and deliver the best customer experience.

### The Solution

To ensure employees begin their jobs prepared to support a wide range of customer needs, learning experiences are designed so that our employees' newly developed knowledge, skills and abilities can instantly be applied to their day-to-day responsibilities. The most effective experiential learning includes some, or all, of the following components:

- ⦿ Apprentice-like opportunities with hands-on training;
- ⦿ Simulations and practice opportunities in an environment that is a replica of what they will experience on the job; and
- ⦿ Shadowing of other Comcast employees who are experienced and excel at the skill set that is being taught.

Full immersion in and exposure to experiential learning is enabled by supplemental content in many forms (e.g., web-based content, self-directed learning, simulations, virtual sessions, videos, games). Effective experiential learning helps newly hired employees develop knowledge and skills, demonstrate abilities through application, and build confidence in our products and services for the jobs they were hired to perform.

### Outcomes/Benefits

Evaluations of performance measurements of employees onboarded through experiential learning have shown consistent and marked improvement, as compared to those of employees from legacy classes. Trends after 30, 60, 90 and 120 days indicate greater speed to proficiency and better skilled employees, and qualitative feedback indicates higher levels of confidence. Experiential learning has affected retention in some areas by as much as 20 percent to 30 percent.



**Brian L. Roberts**

Chairman and Chief Executive Officer  
Comcast Corporation



[www.comcastcareers.com](http://www.comcastcareers.com)

*"Our people are the heart and soul of Comcast, and there's nothing more important than developing talent as we look ahead to what's next."*



www.conduent.com

"A strong pipeline of future leaders is essential to the growth of our business and to positioning Conduent for sustainable market leadership. We are making a significant investment in the training and leadership development of our front line managers and supervisors, equipping them with the skills and competencies they need to build a culture of high performance, engagement and productivity within their teams."

### Summary of Initiative

Conduent's Front Line Manager and Supervisor Training (FLMST) program is a foundational management certificate program focused on skilling our front line managers and supervisors through building critical skills required for effective leadership. The training is mandatory for newly hired and newly appointed supervisors and managers.

### The Need

In order to improve attrition and increase employee engagement we are training front line leaders in the art and science of managing people. Our practice of promoting from within, while motivating, left our front line leaders exposed as there was no formal training for them. This created an issue within our contact center population because departing employees cited their manager as one of the main reasons for departure. FLMST was designed to combat this problem.

### The Solution

We created the FLMST program on the Conduent Learning Ecosystem to systematically close management skills gaps while allowing learners to scale their individual learning. This is achieved by shifting to a learning culture and delivering learning experiences from our internal catalog; a collection of free, open and low-cost learning providers; and curated pathways linked to specific topics, skills and competencies.

The FLMST program is focused on four core areas: Management Fundamentals, Enabling Employee Performance and Results, Managing Staff and Employee Administration, and Effective Communications. The learning is organized to allow learning in small, manageable time chunks. The 27 hours of content are delivered in a microlearning, multimedia format and can be viewed on computers, smart phones and tablets.

In addition, learners are encouraged to explore personalized learning, chiefly realized by constructing pathways consisting of a variety of experiences designed to achieve a learning outcome. For example, when a new manager logs into the learning portal she can see her current learning path including FLMST, which has a number of courses and experiences and a link to a social learning site where she can find peers, communities of interest and potential mentors.

### Partnerships

FLMST has been created with vendor partners. Content is provided by SkillSoft and BigThink, pathways are powered by Degreed, and the social aspects of the platform run on Yammer. Content curation and company-specific content is created by Conduent's Learning Services Group.

### Outcomes/Benefits

FLMST launched in August 2016. To date we have enrolled 1,100 mandatory learners and 2,600 nonmandatory learners. Of this population, 450 have completed the training. We are in the early stages of tracking correlation to attrition impact, and unofficial numbers are looking promising. Program graduates are reporting they have a higher level of comfort in their management roles, are more secure in their decisionmaking, and need less intervention from their managers and/or human resources to resolve day-to-day issues. Managers of graduates of the program are reporting better, more timely decisions and higher rapport between these individuals and the teams they manage. Human resources is reporting less traffic to our Workplace Solutions Center to answer content-based questions.



A handwritten signature in blue ink, which appears to read "Ashok Vemuri".

**Ashok Vemuri**  
Chief Executive Officer  
Conduent Incorporated



### Summary of Initiative

To ensure Convergys supports long-term career growth and the development of skills for a lifetime, we created the Leadership Development Portal. This training curriculum helps our employees develop customer service, work and life skills and build a career path from entry level into management.

### The Need

Convergys' 130,000 global employees handle more than 8 billion customer experience interactions each year. Headquartered in the United States, we employ primarily high school graduates at more than 40 sites in 20 states. As the complexity of entry-level customer service jobs increases, it is more difficult to identify candidates who possess the basic math, grammar, typing, problem-solving and communication skills required to succeed. Therefore, once we find the right candidate, we invest to ensure he or she has the up-front and ongoing training needed to be successful in the job, as well as for long-term career advancement.

### The Solution

Convergys provides robust new hire training and ongoing training through our online Convergys University portal. We also encourage continuing education outside of Convergys and offer tuition reimbursement.

New hire training is paid and is a minimum of three weeks but can be up to 12 weeks depending on the client and complexity of the work. Some, like health care programs, include industry certifications. To ensure ongoing training for our employees, Convergys developed the Leadership Development Portal life skills series. A differentiated training strategy and coaching program that develops life skills, this series supports learning agility, interpersonal communications and technical skills. The program helps workers continue to learn postgraduation and enables career progression for those who are interested in a managerial path or a role in a different part of the company, such as training, quality or recruiting.

### Partnerships and Enabling Public Policies

Convergys partnered with the United Nations on the Sustainable Development Goals to support improving access to lifelong learning and employment opportunities. In the United States, we developed numerous local partnerships with community organizations specializing in workforce development and training. This includes universities and nonprofits in the communities in which we live and work to support our current and future employees. We also support international partnerships such as the Points of Light affiliate Hands on Manila in the Philippines and a program for high school seniors in El Salvador and Nicaragua. Both partnerships aim to support learning development and workforce skills.

### Outcomes/Benefits

Convergys' results have delivered benefits for our employees and clients:

- ◉ We invest in approximately 14 million hours of employee-based training per year.
- ◉ 79 percent of our front-line managers are promoted from within.
- ◉ Since 2007, we've invested more than \$7 million in tuition reimbursement for U.S.-based employees.



[www.convergys.com](http://www.convergys.com)

"Solving the skills gap will accelerate the creation of new jobs and fulfilling careers. Investing in differentiated training models addresses the challenge, supports employees and makes good business sense."



A handwritten signature in black ink that reads "Andrea J. Ayers".

**Andrea Ayers**  
President and CEO  
Convergys Corporation

“At CVS Health, we know that today’s youth are the business leaders, pharmacists, nurse practitioners and health care professionals of tomorrow. That’s why we’re focused on introducing young people to careers in health care and pharmacy, two significantly expanding fields, and ensuring that they are armed with the skills they need to achieve success not only in their careers but also in life. By training and hiring young people, we are building not only a strong workforce but also stronger communities.”

### Summary of Initiative

CVS Health offers our colleagues multiple career pathways along with the opportunity to receive industry-driven training, incremental wage increases and college credit by experience. One of our most powerful tools is our Registered Apprenticeship program. Those who complete the program receive a nationally recognized, portable credential.

### The Need

CVS Health is the largest pharmacy health care provider in the United States, with 243,000 colleagues across all 50 states. It is projected that by 2020, 5.6 million new U.S. jobs will be created, which may lead to a sizeable shortage in pharmacists and pharmacy technicians, nurse practitioners, and physician assistants — the very highly skilled workers we need to compete and serve our patients.

### The Solution

For our company to thrive, we can’t limit ourselves to traditional talent sources to sustain our workforce. CVS Health is addressing the nationwide shortfall of high-demand occupations, like pharmacy technicians, through the Department of Labor’s (DOL) ApprenticeshipUSA. The program includes classroom and online instruction, professional mentorship, and on-the-job training. Our community and workforce development partners provide pre-employment and postplacement retention support.

### Partnerships and Enabling Public Policies

The DOL provided \$90 million of funding for new investments through ApprenticeshipUSA to expand apprenticeship in the United States, including \$60 million to support state strategies and \$30 million to catalyze industry partnerships in fast-growing and high-tech industries, support organizations focused on increasing diversity, and launch national efforts to make it easier for employers to start and for workers to find apprenticeship opportunities.

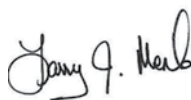
One example of an early CVS Health success is our partnership with Stepping UP, which serves as an invaluable intermediary and advocate for us and other local employers. Together, we created a cost-effective preapprenticeship program that is funded with a United Way grant and available free of charge to participants. The six-week program combines employability skill development with CVS Health technical training modules for pharmacy technicians.

### Outcomes/Benefits

With assistance from the DOL and local grants, CVS Health is expanding apprenticeship in our headquarters state of Rhode Island, as well as in Arkansas, Florida, Georgia, Illinois, Missouri, Montana, North Carolina, Ohio, Pennsylvania, Texas and Wisconsin.

Nationwide, we currently have more than 2,000 apprentices, with Michigan and South Carolina as our top locations. Between 2012 and 2014, CVS Health expanded apprenticeships to South Carolina, where more than 720 pharmacy technicians were registered by the Office of Apprenticeship. Those employed for a minimum of seven months were eligible to receive a certificate of completion.

Our Registered Apprenticeship program has been so successful that CVS Health has committed to increasing the number of its apprentices to 3,000 over the next several years. This expansion will go beyond the current apprenticeship tracks in retail pharmacy and management. We will explore how we can offer apprenticeships in other business units, including pharmacy benefits management, specialty pharmacy, nursing and digital.



**Larry J. Merlo**  
President and CEO  
CVS Health

## Summary of Initiative

Yoh ([www.yoh.com](http://www.yoh.com)) — a Day & Zimmermann ([www.dayzim.com](http://www.dayzim.com)) staffing company — is in the business of finding the best talent for our clients. With the widening skills gap, it has become more difficult to find qualified technology professionals to fill our clients' needs. In response, Yoh's Recruiter Training Roadmap and Certified Recruiter Training Program was designed to aid in the timely and successful development of new recruiters entering our workforce, as well as provide a means for current employees to keep their skills up to date with changing tools and methodologies. This initiative creates better recruiters, which in turn helps our clients.

## The Need

For more than 75 years, the recruiters of Yoh have provided nationwide specialty recruitment services to clients in industries ranging from aviation to engineering, life sciences to information technology, interactive entertainment to government services, and more. Each year, our recruiting teams fill thousands of positions for our clients, enabling them to grow, innovate and deliver in highly technical industries. To continue to be our clients' preferred provider, we need to attract and develop and invest in those who fuel our business: our recruiters.

## The Solution

Yoh's Recruiter Training Roadmap and Certified Recruiter Training Program was developed to start recruiters in the right direction and help even veteran recruiters improve their skills. In terms of attracting the right people, our professional development program for recruiters attracts those wanting to learn to be, or to continue to be, the best in their chosen profession. In fact, many human resources coordinators, interview schedulers and sourcers have elected to take the internal certifications to expand upon their skills. Our programs have been favorably compared, side by side, to external certifications offered by AIRS and the American Staffing Association (ASA). They have been developed by successful, certified recruiters with expertise in a variety of industries, following the PMBOK Project Management methodology.

## Partnerships and Enabling Public Policies

Yoh actively participates in the ASA to help make workers and companies aware of the opportunities and benefits of working with and within the recruiting industry. In addition, it actively promotes jobseeker awareness to increase the availability of workers for staffing clients. Yoh's vice president of marketing and communications is the current chair of the ASA Public Relations Committee. Talking about solutions to the skills gap is one of many initiatives of the committee.

## Outcomes/Benefits

By focusing on learning and training for our recruiters we are enhancing our ability to provide our clients with the best talent for the job at hand, and our recruiters have also been experiencing the payoff. This year, we have already seen a 26 percent increase in the rate of participation in our training programs. In 2016, almost 400 new students participated in more than 3,200 training modules, for an average of more than eight classes per person; this equated to an average of 45 minutes spent per class or six hours of instruction per person. Additionally, an 11-week internal certification was built and piloted by internal subject-matter experts to address skills gaps and necessary tool-related updates in addition to other facilitated blended learning classes. Results from Yoh's Recruiter Training Roadmap and Certified Recruiter Training Program have been very positive, and we are committed to continually helping our recruiters to pave the way in resolving the skills gap for our clients.



[www.dayzim.com](http://www.dayzim.com)

*"Each year, our recruiting teams fill thousands of positions for our clients, enabling them to grow, innovate and deliver in highly technical industries. To continue to be our clients' preferred provider, we need to attract and develop and invest in those who fuel our business: our recruiters."*



A handwritten signature in black ink that reads "Harold Yoh".

**Harold L. Yoh III**  
Chairman & CEO  
Day & Zimmermann

“Our people are our most important asset, and we place a high priority on fostering a leadership culture focused on the development and well-being of our professionals.”

## Summary of Initiative

Deloitte builds workforce skills and drives business performance through a holistic approach to the development of our people.

## The Need

Our 80,000-plus U.S. professionals are our greatest assets. We provide industry-leading audit, consulting, tax and advisory services to more than 80 percent of the Fortune 500 and thousands of private and middle-market companies. Our people work across more than 20 industry sectors, requiring transferable, client-ready skills as well as specific, knowledge-based skills. The current pace of change in the marketplace creates unique challenges for our clients, requiring our workforce to adapt to new demands fueled by technology, innovation and other disruptive forces.

## The Solution

To build the skills, knowledge and capabilities needed to serve our clients, we employ a continuous learning model across the full talent life cycle to better equip our workforce for the changing needs of business:

- ⊙ Education: Formal learning, which encompasses live instructor-led, virtual and online delivery methods.
- ⊙ Experience: On-the-job development roles and activities that allow professionals to evolve in their careers.
- ⊙ Exposure: Learning through networks, communities of practice and peer/mentor relationships.
- ⊙ Environment: Resources and tools that reinforce and extend learning, which includes a focus on technological capability building.

More than five years ago, we invested \$300 million to build Deloitte University (DU), our world-class leadership center in Westlake, TX. In a time of digital learning, we made a bold bet that a physical brick and mortar campus would catalyze our people to learn and serve as the foundation for our culture of learning at Deloitte. The DU experience is enriched to include networking opportunities, innovation labs, talent development and well-being.

## Partnerships and Enabling Public Policies

- ⊙ We recruit from 300 schools across the country and collaborate to create specialized curricula. For example, through the Deloitte Foundation's matching gifts program, we are collaborating with the University of Illinois to develop a business analytics program and curriculum.
- ⊙ We leverage our learning platform to build capabilities externally:
  - The Courageous Principals program provides leadership development training to K-12 school principals and superintendents from school districts across the country, drawing on our leader development learning methods and content.
  - The Career Opportunity Redefinition & Exploration (CORE) Leadership Program helps members of the armed forces and veterans translate their skills, knowledge and experiences into a business environment.

## Outcomes/Benefits

- ⊙ We provide approximately 65 learning hours per person annually along with ongoing on-the-job experiences and exposures.
- ⊙ Our blend of development methods has been shown to increase engagement, which in turn can drive improved individual and team performance.
- ⊙ 92 percent of our programs are led by Deloitte professionals.



*Cathy Engelbert*

**Cathy Engelbert**  
CEO  
Deloitte US

## Summary of Initiative

Dow's commitment to Building the Workforce of Tomorrow requires a robust global science, technology, engineering and math (STEM) talent pipeline supported through strategic partnerships across the entire K-20 educational spectrum.

## The Need

Similar to other companies in innovation and manufacturing, Dow currently faces challenges in identifying well-trained individuals to fill process technician and skilled trade roles in some locations, and as we look into the future, we do not see a steady stream of students entering into manufacturing STEM fields that are vital to create innovative solutions.

## The Solution

Dow's multipronged strategy addresses the diverse timeline of workforce needs we face and highlights our partnerships with key institutions from classroom to career.

## Immediate and Intermediate Workforce Needs

- Partnerships with community colleges in local communities strategic to our operations:
  - We utilize the Fast Start program with Delta Community College in Michigan for rapid job placement for positions with our manufacturing sites in Midland, MI.
  - All of our Freeport, TX, site's process technology operators are hired from Brazosport College in Texas.
  - Dow participates on community/technical college advisory boards to develop and sustain relevant curricula.
- U.S. Apprenticeship Program (USAP): The Dow USAP is a three-year program currently located in four states — California, Louisiana, Michigan and Texas. The program is registered with the Department of Labor and includes both formal education (associate degree) and on-the job training for instrument electrical technician, process technician and millwright roles.
- University collaborations: Dow's global strategic university partnerships have business-aligned research projects and provide a recruitment pipeline of well-trained students.

## Future Workforce Needs (Three-Plus Years)

- K-12 STEM initiatives: Our STEM programs are supported by our employee volunteers, known as Dow STEM ambassadors, whose aim is to support teachers and inspire students by providing real-life examples and exciting opportunities in STEM careers. Strategic STEM partnerships include You Be The Chemist Challenge®, FIRST® and Smithsonian Science Education Center.

## Partnerships and Enabling Public Policies

As we believe all sectors must work together to support a robust workforce, we collaborate with local schools, community colleges, universities, nonprofits, governmental agencies and businesses.

## Outcomes/Benefits

### Dow Global Apprenticeship Portfolio

- Dow employs more than 20,000 manufacturing operations technicians and skilled trade workers globally and typically hires 1,000–2,000 each year.
- Our robust global apprenticeship programs have graduated 2,700-plus apprentices.
- With an average starting wage of \$55,000 per year in the United States once qualified, apprentices also receive an associate degree.

## 2016 STEM Ambassadors

- With more than 2,200 STEM ambassadors logging 25,000 volunteer hours, we have reached 360,000 students and supported about 2,000 teachers.



Andrew N. Liveris

**Andrew N. Liveris**  
Chairman & Chief Executive Officer  
The Dow Chemical Company



www.dow.com

"America's skills gap is the single biggest obstacle to economic competitiveness, sustained growth and a healthy middle class. Government, all industry sectors and educators must work together to solve it."





www.duke-energy.com

“Our dynamic industry demands the kind of new and different skills from our workforce that veterans embody. Our new program to recruit veterans to our team is producing great results.”

### Summary of Initiative

The Veteran Recruiting Strategy supports our commitment to diversity and inclusion and emphasizes our support of veterans in the workforce. It is key to building a skilled pipeline of capable, engaged and empowered employees.

### The Need

Duke Energy, one of America's largest electric power companies, is committed to powering the lives of the 24 million people we serve. The energy sector is going through an exciting transformation, and the needs and expectations of our customers and communities are evolving. We are building a brighter energy future; modernizing our system; and investing in new, cleaner technologies. We are also addressing the challenge of replacing the institutional knowledge and expertise of a changing workforce. We anticipate that nearly 9 percent of our employees will be leaving through retirement or other reasons by 2021. We determined that the changing nature of our business is creating a gap in the skills needed to continue to drive our business. The kinds of training, skills and leadership qualities that veterans possess uniquely address this business need. Accordingly, we developed a strategy to recruit veterans to the company in greater numbers.

### The Solution

As part of our comprehensive workforce development strategy, Duke Energy created the veteran recruiting initiative and formed a dedicated military recruiting team to establish and maintain relationships with veteran organizations, military installations and internal stakeholders. This team is responsible for providing consultation to our business units on the execution of our strategy. Through coordinated efforts, we routinely conduct information sessions, attend military career fairs and events, and partner with veteran nonprofits to generate interest in Duke Energy careers. We identify geographies that are heavily populated by those transitioning out of the military and target organizations that assist veterans in assimilating into our communities.

### Partnerships and Enabling Public Policies

The strategy encompasses partnerships with 26 military installations, veteran nonprofits, internal networking and affinity groups, the Center for Energy Workforce Development's Troops to Energy program, and the U.S. Army's Partnership for Youth Success.

### Outcomes/Benefits

By the end of 2017, we expect to hire more than 250 veterans — about 15 percent of our incoming workforce. Key successes include:

- ⦿ Line workers:
  - 65 percent of veterans pass the pre-employment aptitude test, which is 17 points above the national average.
  - Half of our most recent hiring class of 22 linemen are veterans.
- ⦿ Emergency preparedness:
  - Our new director of emergency preparedness was recruited through a veteran nonprofit in North Carolina. He is a retired Army colonel responsible for planning and coordination of Duke Energy's response efforts during high-impact weather events and other emergencies.
- ⦿ Vehicle maintenance technicians:
  - Five veterans have been placed as technicians within our fleet organization as a result of military installation visits and recruiting efforts.



**Lynn J. Good**

Chairman, President and Chief Executive Officer  
Duke Energy Corporation

## Summary of Initiative

DXC Technology is an information technology (IT) service provider that helps clients transform their businesses using next-generation IT solutions. This means that we must constantly ensure that our IT professionals are skilled in the latest technologies and techniques. We developed focused learning programs to grow the skills and capabilities of our current employees, while investing in our communities to help them develop capabilities for the future.

## The Need

DXC is a leader in IT services worldwide, providing cutting-edge technology solutions to meet our customers' increasingly challenging problems. To achieve this, we must find ways to upskill and reskill our talent base.

## The Solution

We formed a cross-functional Technology Transformation Team to identify the next-gen technology skills we need. The team includes data scientists, who analyze data from both the internal and external labor markets, the products and services we offer, and our skills inventory system.

We then rapidly developed learning guides aligned with these skills, with paths based on different experience levels from beginner to advanced. Hosted on our internal training platform, the guides are dynamic — we continuously update them to keep pace with the quickly evolving technologies in our industry.

## Partnerships and Enabling Public Policies

As employees at DXC develop next-gen skills, they are also helping their communities learn, which in turn ensures that the future talent needs of the company will be met. Employees support FIRST LEGO League robotics tournaments, where kids ages 6 to 18 participate in robotics competitions that develop science, technology, engineering and math (STEM) skills. Additionally, we sponsor DXC Codes, through the DXC Charitable Foundation, during which we challenge 10- to 13-year-old kids around the globe to create an adventure game using the online coding tool Scratch. DXC has sponsored teams from Hartford, CT; St. Louis, MO; and Tysons, VA.

## Outcomes/Benefits

More than 2,100 employees in the Americas completed more than 165,000 hours of training over the past 12 months, and 13,602 employees globally have accessed content in our learning guides. Learning guides focus on skills such as Agile project management, DevOps, cybersecurity, Amazon Web Services, Java, .Net and Python. Last year, DXC launched a mobile learning platform to further support the learning guides, and more than 11,000 books and videos were accessed by DXC employees on this platform.

Logan Wilt, now a data scientist at DXC, tapped into these learning guides to help transition her career from human resources to data analytics. In 2013, Logan was tasked with developing a workforce skills ontology for the company. "In the midst of this project, I discovered data science and realized that was what I wanted to do," she says.

With support from colleagues, she pursued this path and now encourages others to consider data science as a career. The next-gen technology creates enormous opportunities that, too often, fail to materialize due to a disconnect between data analysts and end users, Logan says. Through DXC's training programs, people across the organization can better understand and use data, which benefits the employees, the company — and the research.

"As an industry leader, we see highly skilled talent as our most important asset. We not only strive to find the best people, but we also help them grow and develop through programs that expand their capabilities and benefit our clients."



**Mike Lawrie**  
Chairman, President and CEO  
DXC Technology



"In order for workforce development initiatives to be successful, they must be comprehensive and include industry-driven engagement, public and private support, and strong community connections, and they must offer educational opportunities for traditional and nontraditional students, as well as training programs that are customized to specific employer needs."

## Summary of Initiative

In 2008, Eastman helped launch the Advanced Manufacturing Partnership (AMP), a public-private partnership to construct a Regional Center for Advanced Manufacturing (RCAM) and develop a robust workforce training partnership. The primary objectives of the AMP/RCAM were to (1) meet employers' skilled labor needs, (2) promote advanced manufacturing careers, and (3) bring unique and differentiating workforce development capabilities to support regional economic development efforts.

## The Need

Eastman's corporate headquarters and largest manufacturing site are located in Kingsport, TN, where 7,000 Eastman employees and approximately 2,500 contractors work. In 2005, an assessment of Eastman's operations in Kingsport indicated 35 percent of its full-time employees were retirement eligible, resulting in the potential for tremendous employee turnover and loss of skills in coming years. Reviewing the number of retirement-eligible experienced operators, and recognizing the company's portfolio diversification and growth, Eastman realized more customized and specialty training would be needed to specialize the skills of its workforce and retain employees. It was abundantly clear the pipeline of qualified, skilled workers needed to be more robust in order to continue to compete in the global economy.

## The Solution

Eastman worked with Northeast State Community College and a number of other partners to develop RCAM, a 26,000-square-foot training facility to help students learn advanced manufacturing skills. RCAM offers associate of applied science degrees and technical certificate programs in general technology, chemical process operations, electromechanical technology (mechatronics), electrical technology, welding/metal fabrication and customized continuing education training for regional manufacturers.

Eastman endowed a Workforce Development Scholarship Program that provides funding to students pursuing associate of applied science degrees and technical certificates in designated programs. The scholarship criteria require applicants to apply to Northeast State, meet all college entrance requirements, apply for financial assistance, and enroll in at least six hours in a designated degree or certificate program. Approved academic concentrations are machine tool, welding/metal fabrication, electrical technology, electromechanical technology and chemical process operations.

RCAM is an "open" facility, and any student, regardless of industry affiliation, can participate. Programs are consistently being tailored to meet employers' needs.

## Partnerships and Enabling Public Policies

The AMP/RCAM is a collaboration of Eastman, Northeast State Community College, Domtar Paper Company, the City of Kingsport, the Kingsport Chamber of Commerce, and the Tennessee Department of Economic and Community Development, as well as several other industry partners that share in Eastman's belief that a well-structured partnership of government, business and education works.

## Outcomes/Benefits

RCAM's academic program related **enrollment** has **grown more than 3.5 times** since opening in 2009. Through 2014-15, **completions** for students taking at least 12 credit hours at RCAM have **increased 550 percent**. Since 2012, cumulative outreach hours have also grown to nearly 15,000. **Job placement rates** for RCAM-related programs are consistently **more than 98 percent**. RCAM has also been instrumental in meeting industry demand for "mechatronic" related skills. Enrollment in Northeast State's "mechatronic" program increased 10-fold over a 10-year span.



**Mark J. Costa**

Chairman of the Board and Chief Executive Officer  
Eastman

## Summary of Initiative

ExxonMobil supports several initiatives to prepare students for tomorrow's jobs, particularly in science, technology, engineering and math (STEM). Two examples include our partnerships with the National Math and Science Initiative (NMSI) to prepare students for college and STEM careers and with the UTeach Institute to encourage STEM undergraduate students to become teachers.

## The Need

As a company employing more than 44,000 professionals — including more than 29,000 scientists and engineers — ExxonMobil's future depends on a diverse workforce skilled in STEM. However, our education system is not preparing enough STEM-capable students to meet this demand. For example, a 2015 Change the Equation report on diversity noted that women currently comprise only 12 percent of the engineering workforce.

## The Solution

ExxonMobil understands the importance of STEM education and the role of teachers in preparing tomorrow's employees. In 2007, ExxonMobil became a founding sponsor of NMSI, a nonprofit focused on preparing 3rd–12th grade students and teachers for rigorous coursework and STEM careers. Through partnerships with school districts, NMSI's College Readiness Program increases student access and achievement in rigorous Advanced Placement (AP) coursework — a key indicator of success in college and career. In 2015, ExxonMobil made another investment to expand the program in Louisiana, North Dakota and Pennsylvania.

Together NMSI and the UTeach Institute at the University of Texas are working to develop the next generation of highly qualified STEM teachers. This innovative program encourages undergraduate math and science majors to become STEM teachers, thereby helping address the well-known shortage in this field. The UTeach program now exists in 45 universities in 21 states and the District of Columbia.

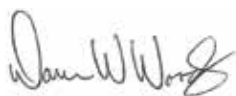
## Partnerships and Enabling Public Policies

NMSI was founded as a public-private partnership to advance STEM education. With ExxonMobil's support, this coalition includes school districts, chambers of commerce, higher education institutions, government agencies, corporations and nonprofit organizations. Importantly, these partners serve as advocates for policies that promote college readiness standards, access to and achievement in STEM coursework, and effective teacher training and support.

## Outcomes/Benefits

NMSI's College Readiness Program has benefitted approximately 50,000 teachers and 1.5 million students and improved STEM achievement in more than 1,000 schools. After just one year, partner schools see the number of qualifying AP scores increase by an average of 67 percent — an increase more than 10 times the average national increase of 6.4 percent. Among African-American and Hispanic students, the average increase is more than six times the national average. In parallel, the UTeach program is projected to produce more than 7,000 graduates over the next five years, thus building the pipeline of quality STEM teachers. Our partners — NMSI and UTeach — are preparing students and teachers for a STEM-reliant economy. Their success in developing a skilled and diverse workforce will help meet the world's energy needs and ensure a STEM-focused workforce filled with our country's best and brightest.

"Our partners — NMSI and UTeach — are preparing students and teachers for a STEM-reliant economy. Their success in developing a skilled and diverse workforce will help meet the world's energy needs."



**Darren W. Woods**  
Chairman and CEO  
Exxon Mobil Corporation



"The skills our people need to succeed are constantly changing. That's why we are investing more than ever in ongoing training opportunities for our employees, including more than \$500 million in over 12 million hours of classroom learning."

### Summary of Initiative

At EY, our purpose is to build a better working world, which includes a strong focus on equipping people with access to the education and skills needed to succeed at EY and in the broader workforce. Each year, we spend more than \$500 million on training and development programs for our 250,000 EY professionals. We also have numerous initiatives aimed at closing the skills gap facing the future generation of workers and client workforces. One such program is the **EY Academic Resource Center (EYARC)**, whose mission supports the development of free, university-level curriculum resources on leading-edge issues affecting the accounting profession. Another is **College Mentoring for Access and Persistence (College MAP)**, which aims to help underserved high school students gain access to college and succeed in higher education.

### The Need

EY has hiring needs of 60,500 globally in fiscal year 2017. Young people are three times more likely to be unemployed than adults, and in the United States, 5.6 million youth (ages 16–24) are disconnected from education and work. An educated and engaged workforce pipeline is essential for EY to deliver its purpose.

### The Solution

EYARC helps students prepare for and succeed in the fast-changing global market by supporting state-of-the-art, hands-on academic resources on emerging accounting-related subject areas to better advance traditional and nontraditional skill sets of future professionals. Course material developed by EY is available exclusively to faculty for nonprofit, higher education purposes and is shared with colleges and universities across North America at no charge. The content is taught by faculty, in some cases with additional EY support. Examples of topics currently covered by EYARC are analytics mind-set, professional judgment, fair value and sustainability reporting. The content of each curriculum module varies but typically includes user guides, lecture notes, homework problems, case studies, data sets and analytic workbooks.

EY has invested more than \$6 million in this program and uses an innovative, collaborative model. The success of this model hinges on the ability of academics and retired EY partners to join together with active EY professionals to bring the best in pedagogy and practice.

Another program that addresses the next generation of workers is College MAP. EY professionals in 32 cities help to demystify and assist in the process of applying to and affording college, encouraging underserved students who might not have considered applying for college to do so. In addition, the program works with students to build the skills that will help them complete postsecondary education. The multiyear program matches EY volunteer mentors with groups of local high school students. The program is based on the acknowledgment that mentorship is essential when it comes to both finding and advancing careers for the next generation.

### Partnerships and Enabling Public Policies

EY worked with FSG Social Impact Advisors and College For Every Student on College MAP.

### Outcomes/Benefits

EYARC: 1,500-plus faculty users across the globe, 550-plus two- or four-year colleges and universities, coverage of 10 leading-edge subject matter areas with expansive curriculum materials.

College MAP: 1,000-plus EY mentors, 1,200-plus scholars, 99 percent (compared to 72 percent of relevant peer group) graduated high school, 95 percent enrolled in two- or four-year colleges, \$968,000 in scholarships through the Ernst & Young Foundation, pledged to be in 35 cities by 2018.



**Mark A. Weinberger**  
Global Chairman & CEO  
EY

## Summary of Initiative

The FIS Sales Academy is a program developed by FIS to hire, develop and promote the best and brightest college graduates over the course of a six-month period. The program grows and develops entry-level employees, equipping them with the skills and knowledge to develop client management and negotiation skills to drive new business development.

## The Need

FIS recognized the importance of attracting millennial talent that could contribute to the bottom line quickly and efficiently. This required an effort to not only hire but also retain and grow talent organically. FIS' goal was to find and develop future top performers and leaders, while providing a return on investment (ROI) to the company during the training process. This was a unique challenge because few recent graduates are prepared with the specific industry skill set necessary to move directly into a sales role of such magnitude. Additionally, the demographic has a higher likelihood of changing jobs more frequently.

## The Solution

FIS introduced a sales training program in 2011 to attract entry-level talent. The six-month, intensive training program consists of three modules:

1. The Financial Industry: Coursework centered around the CFA Investment Foundations Certificate combined with presentations from FIS subject matter experts.
2. Sales Skills: Sales theory training, prospecting, sales campaign management, deal analysis and on-the-job experience.
3. FIS Knowledge: Introductions to FIS departments including strategy, sales, professional services and operations from leaders across the company in conjunction with product training.

Addressing employees' desire to have immediate impact in a role, the program is structured to engage in revenue-generating activities as early as the first month of training. This is achieved through sales prospecting and participating in activities such as RFP/RFI completion, campaign planning and ad-hoc projects. Not only does this give an immediate ROI to FIS, but it also allows for knowledge transfer from seasoned sales reps to each FIS Sales Academy class. Collaborating with our sales teams allows the candidates to apply their learning and gain real-life scenario training.

## Partnerships and Enabling Public Policies

The program is headquartered out of New York City, London and Singapore, allowing the FIS Sales Academy to engage with a multitude of local universities seeking out career opportunities for future (and recent) graduates.

## Outcomes/Benefits

To date, the Sales Academy has trained 130 candidates who have assumed roles in six verticals throughout the company. During the training program, these candidates executed prospecting campaigns generating 3,391 new sales opportunities resulting in 200 closed deals for a total value of \$46,037,037. Several candidates achieved President's Club status in their first, second and/or third year with FIS and have even been asked to speak about their journey at a companywide leadership forum. Here are insights from past candidates of the FIS Sales Academy:

**Intro to FIS and sales:** [https://app.getacclaim.com/share/med\\_gPNXjdKSWzeHQMZWY5MpN](https://app.getacclaim.com/share/med_gPNXjdKSWzeHQMZWY5MpN)



<https://www.fisglobal.com>

"Our Sales Academy is delivering success on two fronts — developing skills that drive value to our bottom line and providing a highly engaging career path that aligns with the goals of our workforce."



**Gary Norcross**  
President and CEO  
FIS



www.fluor.com

"Since the 1960s, Fluor has invested in the future of the craft workforce, providing opportunities to current and future craft professionals. Fluor is now one of the country's largest construction employers. We are pleased to aid in developing the next generation of skilled craft workers through our U.S. Gulf Coast Craft Training Center. By expanding our pre-employment training to include multiple disciplines, we can better address the industrywide demand for skilled craft workers."

### Summary of Initiative

Fluor's U.S. Gulf Coast Craft Training Center in Pasadena, TX, offers tuition-free, pre-employment training in the welding, electrical, instrumentation, millwright and pipefitting disciplines. The 12-week courses are based on NCCER's industry-leading curriculum and are taught by experienced professionals utilizing a combination of both classroom and hands-on delivery.

### The Need

Across the industrial construction industry, there remains a shortage of skilled craft workers to meet current and future demands. With its U.S. Gulf Coast Craft Training Center, Fluor's key objective is to make a long-term investment in the industry by helping build and strengthen the pipeline of skilled craft professionals equipped to tackle current and future work in one of the country's most active regions — the U.S. Gulf Coast.

### The Solution

Backed by the company's more than 100-year legacy, Fluor's U.S. Gulf Coast Craft Training Center offers tuition-free, pre-employment training in the following disciplines with no obligation to work for Fluor upon completion: welding, electrical, instrumentation, millwright and pipefitting. The 12-week, NCCER-based curriculum combines classroom education with hands-on training led by some of the industry's most experienced professionals. The center graduates approximately 300 students per year, greatly strengthening the pipeline of skilled construction talent to meet current industry demands, as well as future needs.

With the program committed to providing a comprehensive approach to training and development, graduates are seen as "preferred recruits" by Fluor's craft recruiters, as well as recruiters for other companies. Craft superintendents and foremen have found these graduates very well trained and prepared to be productive as soon as they are on the jobsite.

In addition to hands-on, technical training, Fluor also provides more than 40 hours of instructor-led training in employability skills development to help foster healthy attitudes toward construction careers. Topics addressed as part of this curriculum include: Teamwork, Giving and Receiving Criticism, Sexual Harassment and Diversity, Conflict Resolution, and Managing Your Career.

### Partnerships and Enabling Public Policies

Fluor recognized the tremendous need for this type of workforce development initiative and independently established the training center where many of its students are sourced directly from partner high schools that receive funding from the Fluor Foundation. Fluor also leverages NCCER's industry-recognized training program, and graduates are under no obligation to work for Fluor after completion. The company routinely partners with Texas Workforce Solutions to help place graduates that do not go on to be employed by Fluor.

### Outcomes/Benefits

After completing the required 12 weeks of instruction — including more than 480 hours of instructor-led training and practice and 40 hours of employability skills development — students will have an industry-recognized portable credential. All graduates are credentialed in NCCER CORE and will have completed NCCER Level 1 and Level 2 in their chosen craft. Since opening the training center in 2016, close to 300 trainees have graduated from the program, logging almost 110,000 training hours. Most graduates have successfully transitioned to the jobsite, either with Fluor or another major contractor.



**David Seaton**  
Chairman and CEO  
Fluor Corporation



## Summary of Initiative

Finding technically competent employees to fill positions in the mining industry has become increasingly challenging. To bridge the skills gap, Freeport-McMoRan got creative and drew from experiences learned at company sites around the world.

Lessons learned from a training program in Papua, Indonesia, helped us create the Mine Training Institute and San Carlos Training Institute in Arizona.

To address future leadership needs, the company developed eight technical and functional Career Development Towers. These Towers focus on helping employees develop professional and leadership skills in their fields of expertise.

## The Need

An ongoing challenge is finding candidates who have the requisite skills and are willing to work at our remote locations. Our focus is training current employees to safely and effectively do their jobs and developing a source to backfill entry-level positions as employees progress through their careers.

## The Solution

The Mine Training Institute develops hands-on training using adult-learning techniques. The modules focus on training in heavy equipment and fixed plant operations and maintenance, electrical and instrumentation, and welding.

The San Carlos Training Institute is a collaborative effort with the San Carlos Apache Tribe. The tribe provides the facility and selects the students while Freeport-McMoRan supplies the instructors, coursework and equipment and underwrites the cost of the program, which includes student stipends.

To address future leadership needs, new hires participate in the applicable Career Development Tower. Managers lead the Towers by collaborating regularly to ensure that participants receive the technical training, experiences and leadership skills needed to advance their careers. Leadership development courses are available as employees advance from leading themselves to leading others to leading leaders.

## Partnerships and Enabling Public Policies

The San Carlos Training Institute is the result of an active partnership with the San Carlos Apache Tribe. Managers also work closely with universities offering degree programs that best fit our workforce requirements.

## Outcomes/Benefits

The Mine Training Institute has developed more than 150 courses, and the average operations employee receives nearly 100 hours of training per year.

At the San Carlos Training Institute, more than 900 students have enrolled, including 300 women. Graduates may seek employment anywhere, although Freeport-McMoRan has hired 40 percent of the graduates.

The Towers program has positioned us as an employer of choice at schools where we focus our college recruiting efforts. It allows us to manage our professional workforce across North America, thus enhancing rotation opportunities and accelerating leadership development.



[www.fmjobs.com](http://www.fmjobs.com)

*"One critical challenge we face at Freeport-McMoRan — and really across the entire mining industry — is finding employees with the right skills. Filling those positions requires creativity and long-term planning."*



A handwritten signature in black ink, appearing to read 'R. Adkerson'.

**Richard Adkerson**

Vice Chairman of the Board, President and  
Chief Executive Officer  
Freeport-McMoRan Inc.



www.gm.com

"At GM, we welcome employees from all stages of life and want to make the transition [from a career break] as rewarding as possible."

### Summary of Initiative

GM's Take 2 Program is a 12-week internship program for experienced technical professionals—primarily women—eager to relaunch their careers after being out of the workforce for two or more years.

### The Need

GM has one of the largest workforces in the U.S., with nearly 100,000 direct employees. Empowering unique and diverse perspectives keeps GM on the cutting edge of technological innovation. Many talented individuals—including a number of women—exit the workforce during their professional careers for a variety of reasons. These individuals, who have strong technical skills, personal maturity, and historic knowledge, can face challenges when trying to later re-launch their careers.

### The Solution

To help these talented individuals re-enter the workforce, GM launched the Take 2 internship program in 2016. Take 2 has been an effective and popular program for helping parents, caregivers and trailing spouses return to the workforce after taking two or more years off from their careers. Participants receive technical training, professional development and personalized mentoring with GM leaders that prepares them to pursue opportunities in engineering, IT, finance, customer care and other critical functions in GM's global workforce, with the potential to join the company full-time at the end of the program.

With more than 400 applicants, GM's first Take 2 cohort included 10 individuals with career gaps from 4-24 years working in two functions. Afterwards, nine participants received and accepted full time employment (FTE) offers. Based on that success, GM moved quickly to scale the program to new U.S. and international cities and to expand the number of participating business departments. For the Fall 2017 cohort, GM received more than 3,600 applications for 60 positions in seven departments.

### Partnerships and Enabling Public Policies

Partnering with the Society of Women Engineers and iRelaunch, GM is a founding member of the STEM Re-entry Task Force, which aims to create a structural change in the STEM sector by increasing the availability of re-entry internship programs for women with technical expertise.

While Take 2 was initially targeted toward women in STEM careers, the company was so encouraged by the initial success of the program that it expanded Take 2 to include other business functions and participants of all genders.

### Outcomes/Benefits

Workforce diversity fosters innovation and increases competitiveness. Without incorporating re-entry programs as part of their corporate recruiting strategies, organizations risk ignoring a valuable source of talent.

Today, more than 65 individuals have completed GM's Take 2 program, working in fields ranging from Engineering and IT to Finance, with an overall FTE acceptance rate of more than 98 percent. Based on strong feedback from hiring managers, team members, and the participants themselves, GM plans to continue expanding the program and increasing the cohort size.



**Mary Barra**  
CEO  
General Motors Company



### Summary of Initiative

An important element of Harris' Next Generation Workforce strategy is a sustained commitment to college recruiting with an integrated approach that places equal emphasis on: (1) building multifaceted, long-term relationships with select institutions; (2) taking steps to effectively integrate new talent; and (3) sharing and transferring knowledge internally.

### The Need

As an aerospace and defense technology company, with layers of highly specialized knowledge, Harris is particularly sensitive to the implications of an aging workforce. Proactive steps to onboard new talent, accelerate development and drive knowledge transfer are required to mitigate the risk of critical skill erosion with retirements.

### The Solution

Harris strategically invests in university partnerships — actively funding research projects, internships and educational events — with a goal of not only building exposure to emerging talent but also better preparing students to enter the workforce by offering opportunities to apply academic studies in the “real world.”

The Villanova Summer Innovation Incubator (VSI) program, launched in 2015 with Villanova's College of Engineering, is a keystone partnership and a model for future programs. With an emphasis on problem-solving and critical thinking, this competitive, two-month, on-campus residency program provides students the opportunity to work in interdisciplinary, self-directed teams to identify an innovative solution to an unmet societal or technological issue of their choosing. Teams assume full project management responsibility, from initial design through prototype delivery, and visit Harris' headquarters at the conclusion of the program to present their findings.

Once onboard, several initiatives further support new college hires. The Harris Young Professionals group sponsors development seminars and a variety of activities that build professional and social networks, including mentorship opportunities. The company's operating system, Harris Business Excellence, promotes knowledge sharing through process focus, standard work and emphasis on continuous improvement. Annual technology expos, targeted development programs and other initiatives engage new hires and expose them to the breadth of opportunities across the corporation.

### Partnerships and Enabling Public Policies

Harris currently works with eight core partner schools; partners are evaluated annually based on hiring success and alignment with company strategic objectives and are assigned an internal executive champion. Harris is a sponsor company with INROADS, a nonprofit organization focused on developing diverse talent through internships. The company also supports initiatives that engage primary and secondary school students in science, technology, engineering and math (STEM) education as early as possible, which is vital to the success of our nation.

### Outcomes/Benefits

Over the past several years, Harris has successfully hired new college graduates into engineering roles at more than twice the rate of retirements, significantly strengthening the internal talent pipeline. Harris has hired on average more than 350 students annually into full-time and internship positions over the past five years, including our INROADS partnership that resulted in the hiring of more than 80 full-time, diverse employees and interns since partnership inception.

*Bill Brown***William M. Brown**

Chairman, President and Chief Executive Officer  
Harris Corporation

“Harris will welcome more than 500 college graduates and interns in 2017, 75 percent of whom are engineers. People are the legacy we leave behind, and our college recruiting programs are key to developing our future leaders and technologists.”

Honeywell.com

## Summary of Initiative

In Honeywell's journey of being a premier software-industrial company, we seek to build up our employment of the best software talent that have contemporary coding and developer skills for our new Software Innovation Center in Atlanta, GA.

## The Need

With the objective to hire in Atlanta through 2020 800-plus top software developers with skills that currently aren't widely prevalent in Honeywell, we had to ensure we had a consistent process and approach to assess top software talent effectively. Also, in order to attract this talent to Honeywell, we required partnerships with sources of this top-caliber talent.

## The Solution

Honeywell defined a consistent targeted hiring profile to ensure that we are hiring software talent that have the skills, attributes and behaviors that align with our contemporary and innovative software development needs. Along with the target profile of needed talent, we have implemented one standard approach to hiring, which includes technical coding challenges, collaboration activities and behavior assessments.

From a talent attraction standpoint, Honeywell has collaborated with several software developer organizations and universities to create partnerships to identify and attract top software talent. Through sponsorships of hackathons and hiring events with these partners and universities we have been able to expand our network of developer talent. Honeywell has also leveraged local online, print and social media to build our employment brand as a software industrial with career opportunities for top software talent.

## Partnerships and Enabling Public Policies

Georgia Tech, Auburn, local Sandbox and Meet-up Communities, and Technology Association of Georgia (TAG) are just a few of the key partners and universities we have engaged with to help us expand our brand and identify and attract talent. TAG is the most active tech consortium in Georgia, with 35,000-plus members and more than 200 events per year. This partnership allows us to actively participate in these events; share ideas and learnings across other software companies, academia and local government; and recruit passive job seekers.

## Outcomes/Benefits

Honeywell is on the path to building out our Atlanta Software Innovation Center, which will deliver industry-disrupting software products and services. Honeywell is offering collaborative work space and the opportunity to write code for industries ranging from aerospace to building controls to automobile.

- ⦿ More than 60 new hires now based at the site with target plans to hire up to 800-plus employees.
- ⦿ Strong partnerships developed with top software schools to ensure development and growth of students and new graduates.
- ⦿ Creating a contemporary agile software center focused on delivering Honeywell's "connected" business strategy to accelerate our transformation to a software industrial.



**Darius Adamczyk**  
President and CEO  
Honeywell

## Summary of Initiative

Humana's People Commitment advances employee skills in two core ways:

1. **Career Cultivation:** An investment in the identification, training and education of employees to build contemporary workforce capabilities.
2. **Consumer Education:** Understanding of the experiences vulnerable health care consumers face, strengthening employees' skills to provide empathetic health care.

## The Need

**Career Cultivation:** Seventy percent of CEOs say their organizations do not have the skills to adapt to future technology needs.<sup>1</sup> Like many health care organizations, Humana is seeded in care delivery models and skill sets in which contemporary skills in technology, data analytics, machine learning and automation do not meet future demands.

**Consumer Education:** Humana's Bold Goal to make the communities we serve 20 percent healthier by 2020 has created a need to build the employee capabilities necessary to address the challenges many consumers who are below the poverty line face when navigating basic needs, including health care services.

## The Solution

Humana leverages technology to harness real-time data to capture predictive insights and needs for its employees, consumers and Bold Goal communities.

**Career Cultivation:** Data has enabled Humana to advance the capabilities of employees through learning opportunities, such as **Degrees Work**, which pairs employees with coaching services to help them advance their education and obtain degrees.

**Consumer Education:** Insights have provided valuable context around Humana's members and their primary health challenges. Through Humana's Poverty Simulation Experience initiative, participants are assigned new identities, placed into an interactive poverty environment and tasked with providing basic necessities. The initiative has enabled participants to develop empathy-driven solutions for Humana's most vulnerable consumer populations.

## Partnerships and Enabling Public Policies

**Career Cultivation:** Humana partners with the Louisville, KY-based nonprofit organization Degrees Work, which empowers working adults to earn degrees.

**Consumer Education:** The Poverty Simulation Experience is offered in coordination with the Missouri Community Action Network and Bellarmine University Professor Kathleen Cooter, Ph.D.

## Outcomes/Benefits

### Career Cultivation:

- ⦿ More than 26,500 employees have participated.
- ⦿ 215 Degrees Work coaching sessions are underway.
- ⦿ Program investment equals increased retention — lower than 5 percent turnover rate for participants versus 15 percent for those who do not participate.

### Consumer Education:

- ⦿ Of the nearly 300 Humana Poverty Simulation Experience employee participants, 91 percent felt poverty is a big problem; 94 percent report more empathy toward people living in poverty.
- ⦿ The initiative brings together community groups in Bold Goal markets, like San Antonio, to solve a market's pressing health needs and serves as an experiential session to align and energize a diverse group of market leaders and community stakeholders.



**Bruce D. Broussard**  
President and Chief Executive Officer  
Humana Inc.

# Humana®

www.humana.com

"Through investing in our greatest asset — our team members — by offering training to enable continuous learning, we are positioning Humana to meet the diverse needs of the people we serve, now and in the future."

1. 2017 Deloitte Global Human Capital Trends



www.huntingtoningalls.com

“The best thing we can do to close the skills gap is to change the cultural perception of manufacturing. Generations of shipbuilders in Virginia and Mississippi have proven that it’s possible to get a good-paying job without a college degree.”

### The Need

The National Association of Manufacturers reports that 3.5 million manufacturing jobs will be needed over the next 10 years and that 2 million more will go unfilled due to the skills gap. At Huntington Ingalls Industries (HII), a company with nearly 37,000 employees and a constant demand to fill positions at all levels — especially skilled trades positions — we are doing our part to close that gap. In fact, we invest more than \$110 million a year in workforce development.

### The Solution

Since shipbuilding is our primary business and there is no such thing as a shipbuilding degree, the most prominent element of our workforce development strategy is our apprentice schools. The Apprentice School at our Newport News Shipbuilding division in Virginia was established in 1919 and celebrated its 10,000th graduate in 2015. Likewise, the Apprentice School at our Ingalls Shipbuilding division in Mississippi — rebranded in 2013 as the Haley Reeves Barbour Maritime Training Academy — boasts more than 4,000 graduates since it was founded in 1952. Both schools offer tuition-free training in a wide variety of shipbuilding disciplines, from welding and pipefitting to dimensional control and nuclear testing.

### Partnerships and Enabling Public Policies

It’s worth noting that both schools were recently rebuilt, thanks to successful public-private partnerships in Virginia and Mississippi. To that end, we know we can’t tackle our workforce development challenges alone. In addition to our apprentice schools, we support two- and four-year college programs that complement our strategic needs, and we invest in a wide variety of science, technology, engineering and math (STEM) projects at elementary, middle and high schools in the communities where we operate.

More recently, we’ve recognized the gap at the very beginning of the workforce pipeline, so we’ve also begun investing in early education programs. It’s concerning to us that many high school graduates aren’t ready for work, but we think it’s just as important to focus on the fact that many 5-year-olds aren’t ready for kindergarten. We are confident this will have a direct correlation on getting work-ready candidates in the future. It’s part of our long-game strategy.

### Outcomes/Benefits

Lastly — and perhaps most importantly — the best thing we can do to close the skills gap is to change the cultural perception of manufacturing. Generations of shipbuilders in Virginia and Mississippi have proven that it’s possible to get a good-paying job without a college degree. Come to one of our shipyards, and you’ll see thousands of men and women who are proud of the role they play in shaping our nation’s freedom and are able to buy houses, raise families and make positive contributions to their communities. At HII, we bridge the gap to living the American dream.



**Mike Petters**  
President and CEO  
Huntington Ingalls Industries

## Summary of Initiative

IBM's New Collar Jobs campaign addresses the high-tech skills gap by emphasizing job roles that prioritize capabilities over credentials. As we work to address this skills gap through a wide range of skills development and education initiatives, we also call on policymakers to expand the number of career-oriented training pathways students and midcareer professionals can access to build New Collar career skills.

## The Need

At any given time, IBM has thousands of job openings in the United States, and like others in our industry, we cannot find enough candidates with the right mix of in-demand technology skills to fill them. "New Collar" jobs are roles in some of the technology industry's fastest growing fields — from cybersecurity to digital design — that require technical training or some postsecondary education but not necessarily a four-year degree.

## The Solution

IBM is advocating for New Collar skills through 21st century vocational training, innovative public education programs like P-TECH, coding camps, apprenticeships, professional certification programs and more.

IBM pioneered P-TECH, a new education model that couples academics with hands-on skills training and science, technology, engineering and math (STEM) community college degrees to put graduates first in line for job interviews. Students graduate in six years or less armed with a high school diploma and a no-cost, two-year associate degree in a growth industry field.

IBM's Veterans Employment Initiative provides software training, certification and job placement assistance to veterans pursuing careers as data analysts.

Apprenticeships and other forms of work-based learning are another top priority for the company. With funding from the Department of Labor, IBM is working with North Carolina A&T on recruiting women and people of color for an enterprise computing/mainframe apprenticeship.

IBM has pledged to hire 25,000 people in the United States through 2020, many in New Collar roles. This pledge also includes a commitment to hire 2,000 veterans of America's armed forces, many into New Collar positions. Over the next four years, IBM is investing \$1 billion in training and development programs for its U.S. workforce.

## Partnerships and Enabling Public Policies

IBM is advocating for legislation to better match U.S. career and technical training with New Collar career paths, including renewal and expansion of the Carl D. Perkins Career and Technical Education Act, financial aid for short-term credentials like coding camps, expansion of federal work study programs, summer Pell programs, and more.

## Outcomes/Benefits

With more than 60 schools worldwide, the P-TECH model is being replicated successfully while helping students prepare for New Collar careers. Three members of the original P-TECH class in Brooklyn graduated high school with two-year college degrees and started jobs at IBM with salaries of more than \$50,000 per year.

At some of IBM's U.S. facilities, as many as one-third of our employees have less than a four-year college degree. In fact, New Collar candidates without a four-year degree accounted for around 15 percent of all IBM hiring in the United States last year.



www.ibm.com

"This is not about white collar vs. blue collar jobs but about the New Collar jobs that employers in many industries demand but that remain largely unfilled. To create New Collar jobs we will need new kinds of collaboration — involving federal and state governments, public school systems, community colleges, and private business across multiple industries."



**Ginni Rometty**  
Chairman, President and CEO  
IBM Corporation

“International Paper is seizing the opportunity to reinvent our workforce for the future. Our Global Manufacturing Training Initiative is preparing the next generation of IP team members that are critical to the company’s success.”

### Summary of Initiative

In 2011, International Paper’s (IP) manufacturing leadership identified a future challenge of unprecedented attrition. As a result, next-generation IP team members would be required to advance into top positions in maintenance and operations three to four times faster than their predecessors. The company’s Global Manufacturing Training Initiative (GMTI) was implemented to identify best practices and skills requirements inside and outside of IP and to develop the model operations and maintenance employee needed by 2020. GMTI is a challenging learning system designed to develop our highly trained workforce of tomorrow.

### The Need

IP will lose 51 percent of our operations and maintenance employees from 2011 to 2026. The upcoming departures of these long-service, experienced employees represent 72 percent of the years of experience in our company. More than 161,000 years of experience will leave IP through operations and maintenance attrition during this 15-year period and will be replaced by new hires that will advance through these positions in one-third of the time. Employees with less than 20 percent of their predecessors’ experience will have to meet and exceed the business expectations needed by our company to ensure our success.

### The Solution

GMTI is the company’s proactive manufacturing strategy to implement a new learning system for IP’s manufacturing facilities. This standardized learning system created a common set of detailed position profiles and curriculum across IP’s pulp and paper manufacturing facilities. Learning best practices from our 43 mills across the globe and external best practices were leveraged to transform a decentralized learning system for operators and mechanics into one standardized model. This set the foundation for the four key pillars of GMTI: **Recruitment and Selection, Training Systems, Qualifications and Performance, and Organizational Development.**

### Partnerships and Enabling Public Policies

IP’s GMTI is the result of an extensive benchmarking process with companies like Nucor Steel, Mercedes and DuPont. IP has also developed relationships with colleges, vocational technical schools and community colleges. The company is exploring joint partnerships to establish training curricula and procure equipment that is utilized by others in the community. IP is active on the Human Capital Management Business Advisory Board.

### Outcomes/Benefits

IP has seen a number of positive results based on our GMTI. During a recent period of 30 percent attrition and a 41 percent loss of experience, IP exceeded our safety and cash cost savings goals by 2 percent. Each year since 2013, the company’s mill maintenance reliability performance measured by unplanned downtime has improved by 11 percent. IP received a “preferred quality supplier” status from several key companies in 2016, with training as a strong driver behind this designation. Improved training has also enhanced IP’s Life-changing Injury & Fatality Elimination (LIFE) safety program. In 2016, for the first time in IP’s history, no employee or contractor lost his or her life performing work for IP. This safety milestone is the most critical success to build on with our next-generation employees.




**Mark Sutton**  
Chairman and CEO  
International Paper



### Summary of Initiative

JPMorgan Chase is increasing the number of women and people of color in its technology workforce through a comprehensive new approach to talent pipeline development that incorporates partnerships with independent coding bootcamps and in-house accelerated development programs that provide talented individuals with the intensive coding and professional experience they need to succeed in technology roles at the firm.

### The Need

As technology advances more quickly than ever, businesses need talented technologists that can drive the creation of innovative products and applications. The U.S. Department of Labor estimates that there are 500,000 jobs in technology currently open, with more than a million similar new jobs projected to be created over the next decade. Despite the growing demand, fewer than 20 percent of people studying computer science today are women. This disparity shrinks the overall talent pipeline, making it harder for JPMorgan Chase to recruit the more than 700 new technology analysts it hires every year. Moreover, it limits the company's ability to hire a diverse team that approaches problems from new and different angles.

### The Solution

Starting in 2015, JPMorgan Chase launched a comprehensive new approach to attracting, developing and retaining a top-tier technology workforce. This effort involves restructuring organization design, developing innovative recruiting strategies, introducing new training tools for incumbent workers, and reforming performance management.

As part of this effort, JPMorgan Chase launched alternative pipelines aimed at recruiting individuals from underrepresented backgrounds who may have technical acumen but need deeper coding experience to join the firm's technology workforce. Tech Connect is an internal program that recruits math and science majors in their final year of college and provides them with four weeks of specialized career development and Java training before they move into the firm's multiweek bootcamp and two-year Technology Analyst Program. And ZipCode Wilmington is a 12-week Java coding bootcamp that fast-tracks individuals from diverse backgrounds and minimal coding experience into professional software development roles at the firm.

### Partnerships and Enabling Public Policies

Zip Code Wilmington is the result of a partnership between JPMorgan Chase and the nonprofit Tech Impact and was developed as part of the White House Tech Hire Initiative, a campaign to expand local tech sectors by building tech talent pipelines in communities across the country. Other major financial services firms, including Bank of America and Capital One, are also hiring partners for Zip Code.

### Outcomes/Benefits

In 2016, JPMorgan Chase hired 60 analysts across 10 global hubs through the Tech Connect program and 40 analysts from the Zip Code cohort. The analysts recruited through Tech Connect contributed to a 4 percent increase in global gender diversity for the Technology Analyst Program. And of the Zip Code analysts hired that year, 78 percent of entry-level hires and 35 percent of lateral hires were female, black or Hispanic.

JPMorgan Chase is expanding on these successful programs in 2017 and beyond by growing the Tech Connect cohort, increasing the amount of training provided as part of Tech Connect and launching new partnerships with accelerated training providers like Zip Code in additional geographic hubs.



**Jamie Dimon**  
Chairman and Chief Executive Officer  
JPMorgan Chase & Co.

*"As our economy changes, it is more important than ever for businesses to attract, develop and retain a highly skilled workforce. JPMorgan Chase is investing in innovative models of recruiting and training employees and building a diverse team of talented technologists who help us better serve clients and grow our business."*





www.kpmg.com

“KPMG is working with leading business schools to help better prepare future accounting professionals for the data age, which will ultimately enable us to deliver greater value to our clients.”

### Summary of Initiative

Recognizing that there is a shortage of professionals who have the data and analytics (D&A) expertise that today's businesses need, KPMG in the United States launched the KPMG Master of Accounting with Data and Analytics Program in 2016. Developed with The Ohio State University Max M. Fisher College of Business and the Villanova School of Business, it is a first-of-its-kind program, combining a D&A-focused accounting curriculum with practical use of the latest analytics technology and real-world experience, working alongside KPMG professionals.

### The Need

The explosion of data and the rapid advance of related technologies are changing the landscape of the accounting profession. While the fundamental skills of professional judgment and skepticism are more important than ever, our increasingly data-rich world demands a greater understanding of D&A, with critical-thinking skills to translate data patterns and anomalies into relevant and meaningful business insights. KPMG recognizes the need to be a driving force in shaping the future of accounting talent and to help prepare an emerging workforce for the data age.

### The Solution

The KPMG Master of Accounting with Data and Analytics Program was developed with The Ohio State University Max M. Fisher College of Business and the Villanova School of Business. Each university will tailor the program to enhance students' critical-thinking and problem-solving skills with a curriculum that combines advanced accounting with specialized courses on technology and D&A, including hands-on experience with software tools and data sets currently used by KPMG professionals. The demanding coursework goes beyond traditional accounting and auditing principles to include technologies and methodologies used in today's highly complex, data-centric audits. The program includes a spring semester/winter quarter internship as well as a full-time position with an opportunity for an accelerated leadership career track at KPMG for high performers. The first class of Master of Accounting students, expected to number more than 50, will matriculate in September 2017.

### Partnerships and Enabling Public Policies

Creating this unique program required working closely with faculty from The Ohio State University Max M. Fisher College of Business and the Villanova School of Business. Each university has integrated KPMG's program to fit seamlessly within its master of accounting degree. KPMG is continuing to examine ways to expand this program, announcing recent agreements in Ireland and South Africa to do just that. Additional universities are also expected to join the program in the United States.

### Outcomes/Benefits

KPMG professionals today apply D&A to audits, gaining knowledge through KPMG learning and training. Our Master of Accounting with Data and Analytics Program will help to develop accountants in the data age and accelerate progress in enabling our teams to better leverage and advance innovations in audit. Working with the business schools' faculty in creating a dynamic learning environment will also extend beyond the classrooms of these schools and permeate education for all of our audit professionals.



**John Veihmeyer**  
Chairman  
KPMG International

## Summary of Initiative

Lockheed Martin is working to engineer a better tomorrow through technological advancements and integrated solutions that increase safety, global security, and human knowledge. To do this, we need scientists, engineers, and workers with 21st century skills. For this reason, we are proud to partner with schools, policymakers, and non-profit organizations to improve educational attainment in science, technology, engineering, and math (STEM).

## The Need

We need a highly skilled workforce to produce innovative solutions that meet our customers' needs and advance our country's ability to create cutting-edge technologies, products, and services. The demand for skilled workers is made more urgent by demographic shifts in the labor markets and increasing retirements.

## The Solution

Lockheed Martin's multi-pronged strategy includes the following areas of focus and outreach:

- ⊙ **Inspiring the Next Generation:** We have created programs such as Generation Beyond, which inspires K-12 students' interest in space exploration. We sponsor STEM partnerships with organizations such as Imagine Science, Discovery Education, and Girls Inc. Lockheed Martin and the U.S. Naval Academy created the Cyber Operations Center Summer STEM Program.
- ⊙ **Building the STEM Talent Pipeline through STEM Education:** We partner with schools, universities, and communities to contribute to STEM education, provide financial resources, volunteers, professional opportunities, and immersive experiences.
- ⊙ **Growing Technical and Manufacturing Talent:** Lockheed Martin has multiple Apprenticeship Technical Programs across the country, which increase opportunities for those not seeking four-year degrees. At the high-school level, we've developed an internship program with Project Lead the Way to complement students' existing academic and engineering curriculum with the long-term goal of converting interns into full-time hires upon college graduation.
- ⊙ **Focusing on Diversity:** In 2016, we partnered with over 25 national organizations that represented a broad cross section of talent with respect to women, minorities, veterans, and people with disabilities.

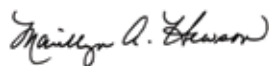
## Partnerships and Enabling Public Policies

Our programs and partnerships elevate student achievement, improve teacher development, and improve gender and ethnic diversity in educational attainment. Lockheed Martin's partnerships go beyond universities to include technical schools. We also leverage relationships with minority-serving organizations, such as historically black colleges and universities (HBCUs), and other organizations such as the National Society of Black Engineers, the Society of Women Engineers, and Great Minds in STEM.

## Outcomes/Benefits

We have strengthened our talent pipeline, increasing entry-level hiring by 50 percent. In fact, the majority of our interns choose to stay on as permanent employees. As we look to the future, we will continue to improve manufacturing capacity through apprenticeships and technical training programs to spread the skills needed for the challenges of the 21st century.

"To take on 21st century challenges, our nation needs a workforce with 21st century skills. To develop such a workforce, we will need every sector of society to do its part to promote science, technology, engineering, and math — from grade schools to universities, from apprenticeships to worker retraining. Only then, will we have a talent pipeline equal to the challenges ahead."

**Marillyn A. Hewson**

Chairman, President and Chief Executive Officer  
Lockheed Martin Corporation



www.lyondellbasell.com

“LyondellBasell’s strong partnership with San Jacinto College helps ensure that we have a pipeline of skilled talent with the knowledge and skills required to advance the products and solutions our world needs.”

### Summary of Initiative

“The San Jacinto College Project” has created a pathway to workforce development for the expanding petrochemical industry in East Harris County, TX. The project involves recruiting local residents who are graduating high school or who are underemployed to work in the petrochemical industry. San Jacinto College (SJC) teams up with LyondellBasell to provide these individuals with state-of-the-art training, enabling them to pursue rewarding new careers. The project also provides training for incumbent workers seeking to further expand their skills.

### The Need

The Gulf Coast is experiencing widespread industry expansions and faces the impending retirement of more than 50 percent of its current petrochemical and manufacturing workforce. Filling the pipeline of prospective employees with certified and highly skilled workers is critical. Enhancing employees’ skills in the first years of their careers will also be imperative.

### The Solution

Recently named as a Top 5 U.S. Community College by The Aspen Institute, SJC is the second largest trainer of process operators in the United States and the largest producer of operators, instrument techs and welders in the Gulf Coast region. In 2015, SJC passed a local bond to build the Center for Petrochemical, Energy, and Technology (CPET) with support from LyondellBasell, the East Harris County Manufacturing Association and other industry partners.

LyondellBasell’s Channelview, TX, plant has been at the forefront of developing a vision for workforce training in the region. Subject matter experts in Channelview advise the college on the design of the facility and labs, including a state-of-the-art control room, glass labs and an 8,000-square-foot exterior processing unit. Additionally, LyondellBasell employees work closely with college teams to revise and enhance curriculum and to improve the professional development of college faculty through learning opportunities with LyondellBasell training teams. LyondellBasell employees also partner with SJC employees to recruit students and speak with teachers and counselors about high-paying career opportunities in the petrochemical industry.

### Partnerships and Enabling Public Policies

LyondellBasell has been a leader in coordinating workforce training plans with many other petrochemical companies in the region. The company has also provided support as SJC seeks approval from the Texas Legislature to offer a bachelor of applied technology in industrial management for employees who wish to advance their careers after entering into employment in the industry. Finally, LyondellBasell was a critical participant in meetings with the secretary of commerce and the secretary of labor as the college and industry partnered to advocate for workforce training.

### Outcomes/Benefits

Since the beginning of this partnership, SJC enrollment in process operations has increased by 47 percent, in instrumentation by 150 percent and in welding by 36 percent. Graduation in these programs has increased in process operations by 67 percent, in welding by 102 percent and in instrumentation by 69 percent. The new CPET facility and the improved curriculum will serve petrochemical and industrial construction workers well for decades to come.



**Bhavesh V. (Bob) Patel**

Chief Executive Officer and Chairman of the Management Board  
LyondellBasell Industries N.V.

## Summary of Initiative

Macy's Associate Leadership Development Experience (ALDE), an innovative career development initiative we're testing in several Macy's stores, provides high-potential associates access to a structured program through which they can acquire and reflect the leadership skills and cross-functional knowledge we and they need to execute our transformation strategies on a customer-by-customer basis.

## The Need

We believe our priority of attracting and developing the most talented people in the retail industry is a competitive advantage, but we know from associate feedback that too many entry-level store associates leave us because they see too few advancement opportunities — even though nearly half see themselves in a store leadership role at Macy's. The clear need is to engage this talent pool, reduce turnover, promote a growth culture and create an internal bench for 550 team lead positions in our stores.

## The Solution

Our HR Associate Development Team pulled the best practices from our stores to create ALDE, a coherent, integrated program to put a spotlight on promotable talent and provide a customizable pathway to advancement at Macy's. The ALDE program links an associate's desire for promotion with Macy's need for a talent bench of skilled and passionate future leaders.

While Macy's award-winning Executive Development Program is focused on recent college graduates, ALDE instead opens an advancement path for individuals already working in our stores. Candidates who apply or are nominated for ALDE are vetted by district and executive leaders to identify those who show a passion for retail, assertive leadership abilities and a penchant for teamwork. Working closely with a seasoned mentor, each ALDE participant taps a wealth of learning resources, materials and experiences to create her or his own eight-week personal ALDE Experience. The resources and materials include hands-on, in-store, real-time interactions with cross-functional key store leaders through which ALDE participants can learn selling skills and leadership, customer relationship skills, associate engagement strategies, floor standards, and other company best practices.

## Outcomes/Benefits

The ALDE participant and mentor engage in an ongoing dialogue throughout the ALDE Experience, and ALDE program leaders regularly review overall progress. At the end of the program, district and regional executives analyze the results to determine whether a placement is appropriate.

We know this program can work. Juan Pacheco, a Macy's cosmetics district merchant in Florida, called a similar program the "launch pad" to his career at Macy's. He's seen many associates advance and says, "The most exciting thing I see in each individual is that same passion to continue to build talent through our people."

ALDE is easily customizable by each participant and designed to be readily scalable to each of Macy's 39 districts. We'll apply what we learn from the pilot programs to create a national program that will contribute to Macy's transformation and future success.



[www.macysinc.com](http://www.macysinc.com)

"At Macy's we seek out passionate and talented associates throughout our stores. Then we challenge them to learn more and tackle something new so they can become future leaders."



**Jeff Gennette**  
President and Chief Executive Officer  
Macy's, Inc.

“Our customers — public safety agencies and critical infrastructure providers — demand an ever-increasing level of sophistication and security in our products and services, and our investment in building the pipeline of skilled talent from our universities and reskilling our workforce is tailored to match these demands.”

### Summary of Initiative

Motorola Solutions' workforce reskilling efforts go beyond a single initiative and are an integral component of our broader evolution as a global leader in mission-critical and advanced public safety communications. Our customers — public safety agencies and critical infrastructure providers — demand an ever-increasing level of sophistication and security in our products and services, and our investment in building the pipeline of skilled talent from our universities and reskilling our workforce is tailored to match these demands.

### The Need

Our workforce is uniquely focused on providing cutting-edge technologies to make cities smarter and communities safer. New technologies demand new skill sets including cybersecurity, data analytics, privacy protection, agile development and manufacturing methods, risk management, human factors engineering, program management, new software programming platforms, and digital tools.

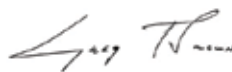
### The Solution

To address the gap between our current workforce and the talent and skill needs of the future, we aggressively pursue a three-pronged approach:

- ⊙ First, our existing technical workforce completes a rigorous curriculum to develop and continuously upgrade the skills required to design, support and protect new technologies we deploy for our customers. These training requirements extend beyond our direct workforce; in fact, as a condition to support our customer base, our partners and contractors are required to complete the same curriculum, thereby amplifying the benefit of our reskilling efforts. Last year alone, more than 19,000 individuals completed more than 250,000 total hours of technical training.
- ⊙ Second, we are revamping our college internship program, bringing more than 150 interns to the company for the summer of 2017 in the United States alone. We expect 60 percent to 70 percent of our college interns to return for subsequent internships or regular employment.
- ⊙ Third, the Motorola Solutions Foundation provides extensive financial support and sponsorship to numerous organizations and educational institutions focused on science, technology, engineering and math (STEM). In 2016, the Foundation supported more than 925,000 students through 74 grants focused on giving students hands-on experiences and skills. For example, we support Harper Community College's Engineering Pathways Program, through which students receive additional academic development and encouragement to pursue a STEM-related career. Harper's Engineering Pathways to the University of Illinois at Urbana-Champaign (UIUC) allows students to study their first two years at Harper with guaranteed admission to UIUC's Engineering School, the country's sixth-ranked engineering program. Moreover, hundreds of our professionals volunteer as technical advisors to public school boards and colleges and serve as student mentors to help guide curricular and skills development for future technology needs.

### Outcomes/Benefits

- ⊙ In 2017, we expect to fill more than 650 new technical/professional positions in the United States.
- ⊙ We expect to meet a 15 percent to 20 percent increase in demand for technical training across our technical workforce.
- ⊙ We expect 60 percent to 70 percent of our college interns to return for subsequent internships or regular employment.



**Greg Brown**  
Chairman and CEO  
Motorola Solutions

## Summary of Initiative

The Accelerated Leadership Program (ALP) was designed to enhance the leadership bench strength at New York Life. Through our succession planning process, we recognized a need to build the leadership skills and business knowledge of midlevel leaders to prepare them to join the executive officer ranks. The ALP program prepares individuals for more senior positions in the organization and instills in them what it means to be a leader at New York Life.

## The Need

In 2010, metrics showed that more than 50 percent of New York Life's executive officers were eligible for retirement by 2015. This, combined with a historical underinvestment in talent development, left the organization without a solid leadership bench. A quick look at succession plans showed that, in some cases, the same player was next at bat for many different roles. ALP was created to bring high-potential leaders from the middle of New York Life to a position of readiness for more senior leadership roles.

## The Solution

ALP is a 14-month program structured to allow for self-awareness through 360 feedback, assessments and coaching, offsite experiential learning, and a business-focused action learning project.

Each participant is assigned an individual coach to understand his or her individual assessment results and New York Life Leadership Competency 360 report and to build a development plan. In addition to the CEO-sponsored kickoff, this process prepares individuals for the rigor of the three residential offsites focused on answering these questions:

- ⦿ How can I understand myself as leader?
- ⦿ How can I inspire others to excellence?
- ⦿ How can I shape the future of New York Life?

The first offsite focuses on understanding themselves as leaders in ambiguous and complex situations, building on the work they've done with their coach. The second offsite focuses on their ability to lead others — requiring participants to reflect on their own purpose related to leadership and building coaching skills to create an environment in which their teams and others can perform at their best. The final offsite focuses on understanding the business, including a two-day mutual insurance simulation and kickoff for the business challenge projects. These team projects use real business issues, providing opportunities to network and learn about other parts of the business and the opportunity to present actionable recommendations back to our Executive Management Committee.

## Partnerships and Enabling Public Policies

This program is built in partnership with Impact International, BTS, Harvard Business Publishing and our executive coaching partners.

## Outcomes/Benefits

After five cohorts, we have produced a rich crop of "ready now" leaders, many of whom have already assumed senior leadership roles: 40 percent of participants have taken on larger roles, and 46 individuals have moved to the executive officer rank with five individuals reaching the level of senior vice president. In addition, business challenge projects have yielded important new initiatives for the firm.



[www.NewYorkLife.com](http://www.NewYorkLife.com)

"Through our succession planning process, we recognized a need to build the leadership skills and business knowledge of midlevel leaders to prepare them to join the executive officer ranks."



A handwritten signature in black ink, appearing to read "Ted Mathas".

**Ted Mathas**  
Chairman and CEO  
New York Life Insurance



“We sincerely appreciate the partnerships with universities in working with industry to enhance educational opportunities for students to fill the workforce needs of today and the future.”

**Summary of Initiative**

Northrop Grumman has implemented a model for successful partnership between business and academia to increase the number of graduates in science, technology, engineering and math (STEM) fields and specifically cybersecurity. With sustained engagement of students, faculty and company leaders and leveraging of strategic program elements, these partnerships are resulting in higher diverse student enrollments and student retention and graduates who are prepared to operate in this everchanging high-threat environment.

**The Need**

The United States faces a severe shortage of cybersecurity professionals, projected to be 1.8 million unfilled positions by 2022. Cyberterrorism poses threats to critical infrastructures and to personal and national security. This increased threat level leads to an escalating demand for cyber-enabled graduates. A 2015 U.S. Department of Labor study revealed that women fill less than 20 percent of information security analyst jobs and people of color less than 12 percent of these positions. Companies across multiple industries and government agencies are facing critical talent shortages and struggle to find diverse candidates in cybersecurity and related STEM fields.

**The Solution**

Northrop Grumman partnered with the Business-Higher Education Forum (BHEF) to develop a scalable success model with three universities to expand the regional cybersecurity workforce. In Maryland, working with the Maryland Governor’s Office and the state university system, Northrop Grumman sponsored the creation of the Advanced Cybersecurity Experience for Students at the University of Maryland–College Park — the first and only honors undergraduate program in cybersecurity. New curriculum was co-developed through a partnership of faculty and industry. Students working in teams solve real-world application problems through hands-on projects, mentoring and internships. At the University of Maryland–Baltimore County (UMBC), the UMBC Center for Cybersecurity was established. UMBC enrolls diverse students at a rate that exceeds national averages. Programs such as UMBC Cyber Scholars support STEM students financially and foster retention through common on-campus learning housing, events and internships. Every cyber scholar is assigned a faculty mentor who supports scholars in navigating the curriculum and engaging in research projects. In California, Cal Poly–San Luis Obispo has partnered with local charter high schools serving underprivileged minority students to establish a diverse pipeline of talented engineering students. With the establishment of a Cybersecurity Center, the opening of a new cyber lab, the development of cybersecurity curriculum, and a multifaceted scholarship and internship program, Cal Poly is poised to become a leading supplier of cyber-ready experts, professionals and innovators. We are working to continue to scale this model.

**Partnerships and Enabling Public Policies**

The program is the result of an active partnership among Northrop Grumman, the BHEF, state governments and university leadership. Government agencies and other corporations participate through mentorships and scholarships.

**Outcomes/Benefits**

Leveraging the partnering model has increased the number of diverse STEM students at each of these universities. Female representation exceeds the national average, ranging from 23 percent to nearly 25 percent, while minority representation is about 40 percent in these engineering schools. Undergraduate enrollment has also increased.



**Wes Bush**  
Chairman, Chief Executive Officer and President  
Northrop Grumman Corporation



### Summary of Initiative

Novelis' Engineering Development Program (EDP) consists of technical, professional and leadership training conducted at our 24 manufacturing facilities around the world. The program includes classroom coursework, coaching, on-the-job projects and other development opportunities.

### The Need

Engineering experience and talent is a critical need at Novelis, where our engineers are at the forefront of developing and delivering new products for our customers. With more than half of our engineers set to retire within the next decade and a number of recent expansions, our engineering bench strength is critical to maintaining our leadership position in the aluminum industry.

### The Solution

In order to ensure the program's success, we created a robust curriculum structure, identified the most qualified candidates, and provided them with clear career paths to support future growth and development. Our curriculum structure consists of four, week-long classroom sessions held at locations around the globe. These classroom meetings give our engineers exposure to Novelis' top engineers as well as other participants in the program, fostering a community of collaboration and camaraderie while building a global mind-set and network early in their career. We then set out to find the brightest minds for this unique opportunity. Our candidates must possess a bachelor's or master's degree in engineering (electrical, mechanical, materials science/metallurgy, industrial), solid business acumen, an analytical approach to problem-solving, and leadership potential. Finally, upon completion of the program, we work closely with each participant to provide a clear career path that aligns his or her interest and Novelis' business needs across automation engineering, electrical engineering, mechanical engineering, process engineering, and environmental health and safety.

### Partnerships and Enabling Public Policies

Novelis works closely with numerous colleges and universities to create long-term partnerships that establish a pipeline of talent for Novelis. Through high-visibility activities on campus and consistent engagement with their career services departments, we are able to match students' interests with our business needs.

### Outcomes/Benefits

Novelis' EDP has delivered for employees and the company:

- ⦿ The EDP program has graduated 350 early-career engineers in the six years that the program has been in existence.
- ⦿ Through this program, Novelis has been able to fill the engineering pipeline, which enables engineers at all levels of the organization to move into roles that interest them either laterally or through promotions and helps fill the pending retirement cliff.
- ⦿ This program has proven to accelerate the development of an early-career engineer as it provides him or her with knowledge of the end-to-end manufacturing process and an understanding of how his or her role aligns to it.
- ⦿ The program has become an important and effective recruitment and retention tool.



<http://novelis.com>

"In order to ensure the program's success, we created a robust curriculum structure, identified the most qualified candidates, and provided them with clear career paths to support future growth and development."



A handwritten signature in black ink, appearing to read "S. Fisher".

**Steve Fisher**  
President and Chief Executive Officer  
Novelis Inc.

“The 2015 SFT education program has had a lasting impact on driving the company’s digital transformation. With 95 percent of the global innovation team participating in the program we have seen a rapid adoption of these technologies across new and legacy Pitney Bowes products.”

### Summary of Initiative

Pitney Bowes is committed to helping employees grow and thrive in a supportive and forward-looking culture. It is in this context that the Pitney Bowes 2015 Strategic Foundational Technology (SFT) peer-led education program helped the 1,200-plus global innovation team learn the new technical skills needed to accelerate the company’s digital transformation.

### The Need

In 2014, with a new senior management team in place, Pitney Bowes created a five-year technology strategy plan based on industry technology trends and the company’s future business needs. This plan identified eight SFTs that Pitney Bowes needed to become great at in order to achieve its vision, including Software-as-a-Service (SaaS), Application Program Interfaces (APIs), Big Data, User Experience, Mobile, Advanced Analytics and Internet of Things (IoT).

### The Solution

To quickly ramp up its SFT education program, the company identified technology leaders for each SFT area through a combination of elevating internal employees and hiring new subject matter experts. These eight SFT leaders were charged with creating a year-long curriculum and, with a lean startup mentality, were given only four weeks to define a high-level plan and create the training materials needed for the first sessions. At the same time, each of the 1,200-plus global innovation team members were given access to the five-year technology strategy plan — a new level of internal transparency for Pitney Bowes. Each employee was asked to “pick an SFT major” for 2015 based on applicability to his/her product and/or personal preference.

The SFT education program included a mix of internal webinars and discussion groups, external reading, capstone projects, and freely available online training courses. Global innovation team members dedicated 10 percent of their time in 2015 to learning the new technology, especially how it applied to Pitney Bowes. Participants were not graded or assessed during the program but instead had to demonstrate their level of enthusiasm and participation to their managers during Pitney Bowes’ annual review process.

### Partnerships and Enabling Public Policies

Pitney Bowes leveraged existing communications platforms to manage the overall program, including a SharePoint-based intranet for initial communications, SurveyMonkey for course registration and Webex for internal webinars.

### Outcomes/Benefits

The 2015 SFT education program has had a lasting impact on driving the company’s digital transformation. With 95 percent of the global innovation team participating in the program — with many participants selecting more than one technology — we have seen a rapid adoption of these technologies across new and legacy Pitney Bowes products. Examples included the following:

GOAL	2013	2017
Products Utilizing Pitney Bowes Design System	2	50
IoT Solutions	0	2
Data Sets on Big Data Platform	0	100
Products Leveraging Big Data Platform	0	25
Products on AWS (SaaS)	0	30
Internal and External APIs	0	400-plus
Mobile Products	2	8



*Marc B. Lautenbach*

**Marc B. Lautenbach**  
President and Chief Executive Officer  
Pitney Bowes Inc.

### Summary of Initiative

Qualcomm is committed to inspiring the next generation of innovators. Our STEM initiatives inspire and engage students at all levels and from all backgrounds by showing them the possibilities that lay before them in areas such as robotics, connected cars, Internet of Things and 5G.

### The Need

A steady, incoming workforce of talented STEM professionals is vital to Qualcomm's continuing success as a leading technology company. By 2020, 1.4 million computer science-related jobs will be available, and only 400,000 computer science graduates will have the skills to apply for these jobs, according to projections from the Bureau of Labor Statistics. To fill the gap, more people who are traditionally underrepresented in the computer science and engineering fields must be brought into the equation.

### The Solution

Through the company's Thinkabit Lab™ program and its support of programs such as Women Enhancing Technology (WeTech) and FIRST (For Inspiration and Recognition of Science and Technology), Qualcomm is helping create a global workforce of young inventors with much-needed technical, leadership and problem-solving skills.

Thinkabit Lab is a combination engineering lab, makerspace and classroom for students from all cultural and socioeconomic backgrounds. Qualcomm created the lab to expose students to and engage them in a unique, fun, hands-on STEM experience; raise awareness of STEM-related careers; and inspire the next generation of innovators.

Qualcomm is expanding the program by collaborating with schools, universities, libraries, local government and private-sector organizations to create their own "Inspired by Qualcomm Thinkabit Lab" spaces, teachers and experiences. Thinkabit Lab content is accessible to teachers and students through videos shared on the University of California Television STEAM Channel. Qualcomm is collaborating with Virginia Tech to bring the Thinkabit Lab experience to students in the Washington, DC, metro area and to incorporate the experience into the university's professional development of current and future principals, superintendents, and other leaders.

Qualcomm collaborates with the Institute of International Education on the global WeTech program to build the pipeline of girls and women in STEM fields. WeTech links the women to university scholarships, leadership and technical skills training, mentorships, and other opportunities to help them enter and succeed in technology careers.

### Partnerships and Enabling Public Policies

Qualcomm collaborates in public-private partnerships and works with outstanding organizations to inspire students worldwide to pursue STEM degrees and careers.

### Outcomes/Benefits

- ⦿ Launched in 2014, Thinkabit Lab has hosted 400 classes and camps, affecting more than 12,000 students, teachers and parents.
- ⦿ Thinkabit Lab content videos have been viewed more than 400,000 times.
- ⦿ More than eight Thinkabit Lab expansion sites have opened since December 2015.



[www.qualcomm.com](http://www.qualcomm.com)

"Qualcomm is committed to inspiring the next generation of innovators. Our STEM initiatives inspire and engage students at all levels and from all backgrounds by showing them the possibilities that lay before them in areas such as robotics, connected cars, Internet of Things and 5G."



**Steve Mollenkopf**  
Chief Executive Officer  
Qualcomm Incorporated

“Successful manufacturers invest in their workforce as a competitive differentiator throughout economic cycles.”

## Summary of Initiative

The Rockwell Automation Engineer in Training (EIT) program, targeted primarily at new college engineering graduates, is an up to six-month intensive training program designed to transform young, talented college students into productive engineers capable of performing in a wide range of roles across the organization.

## The Need

Recent college graduates are armed with ample textbook knowledge but often lack the product familiarity and application experience needed to solve the complex challenges faced in industrial automation and advanced manufacturing environments. To succeed, we must find innovative ways to replicate meaningful, real-world experience in an internal classroom and lab environment so that new engineers will truly be prepared to succeed and contribute to the success of their future employers.

## The Solution

The EIT program gives new engineering graduates practical, hands-on experience, successfully educating them in the ways they will see and experience industrial automation and advanced manufacturing technologies in the real world. Consisting of lectures, labs, projects, field experience, and practical and written evaluation instruments, EIT delivers content covering the breadth of industrial automation and advanced manufacturing technologies. A blended approach — approximately 40 percent classroom and 60 percent laboratory — creates a learning environment that not only prepares students to apply and maintain a wide suite of industrial automation products but also develops their commercial and interpersonal skills.

As one participant commented, “It’s a great way to start a career.” Another commented that when he entered the field, it felt as if he gained 5–10 years of experience in just six months.

## Rockwell Automation Engineer in Training (EIT) Program — YouTube

## Outcomes/Benefits

- ⦿ EIT has evolved over 20 years, continuously incorporating new instructional methods and cutting-edge educational technologies.
- ⦿ Globally, EIT delivers an annual average of several hundred recent graduates into a wide range of engineering roles — approximately 1,400 students have graduated from the program since its inception.
- ⦿ EIT graduates have higher retention rates than direct hires. On average, Rockwell Automation sees more than 80 percent retention for program participants.
- ⦿ A significant number of EIT graduates go on to be identified as high-potential talent.
- ⦿ EIT graduates gain confidence, which enables them to become fully contributing employees much more rapidly than their direct-hire counterparts.
- ⦿ Participants of this program benefit from becoming part of a close-knit network composed of their own classmates as well as graduates and instructors across the EIT landscape, and they develop meaningful relationships that serve them throughout their careers.



**Blake D. Moret**  
President and CEO  
Rockwell Automation, Inc.

## Summary of Initiative

SAP's University Alliances (UA) Program exposes students and faculty to the latest technologies and enables universities and vocational schools to integrate SAP software design techniques into their curriculum and teaching. SAP is partnering with more than 500 universities and schools to build technology skills.

## The Need

The tech industry is a driver of economic development within the United States. This sector employs more than 5.7 million people. It is a powerful engine for economic growth and competitive strength, driving more than \$1 trillion into the American economy. Yet, the education and training system in the United States is failing to provide the highly skilled workforce necessary to sustain the tech sector. There will be a need for 1.4 million jobs in computer science over the next three years and, at the pace we are going, only about 400,000 people to fill those jobs.

## The Solution

To help address the skills gap in the technology sector, SAP's UA Program — a global program with more than 3,100 member institutions in more than 110 countries (including more than 500 institutions in the United States) aims to shape the future of higher education. The program exposes students and faculty to the latest SAP technologies and enables universities and vocational schools to integrate software into their teaching by partnering to build technology skills. The UA curricula bring hands-on learning with world-class enterprise software solutions into the classroom. As they learn using multiple channels, students can better connect concepts to practice, becoming better prepared to compete for today's careers in business and information technology. Project Propel focuses the UA concept on historically black colleges and universities and minority-serving institutions (HBCUs/MIs) to help address the problem of underrepresentation of African-Americans and other minorities in the tech industry. The UA Program also stages InnoJams, Code Jams and hackathons to expose K-12 students to coding and building the next generation of apps.

To accelerate the impact of its global academic innovation network, SAP's UA Program also launched SAP Next-Gen enabling corporations and partners to crowdsource insights from students, academic thought leaders and researchers; seed in disruptive innovation from startups; and connect with SAP experts, partners and venture firms on the future of industries with exponential technologies.

## Partnerships and Enabling Public Policies

In the United States, California State University Chico and University of Wisconsin Milwaukee are the University Competency Centers that SAP works with to support more than 500 U.S. UA partner schools. Delaware State University is SAP's Center of Excellence partner to implement the UA Program at HBCUs/MIs.

## Outcomes/Benefits

SAP UA prepares the talent of the future for the digital enterprise. Students can earn an industry certification in SAP technologies to position themselves for outstanding careers in the SAP ecosystem, including partners and customers. SAP Next-Gen enables corporations and partners to connect with SAP Next-Gen Hubs at SAP facilities and SAP Next-Gen Labs at universities, where they can reimagine the future of industries with exponential technologies, seed in disruptive innovation with startups and build skills for digital futures.



[www.sap.com](http://www.sap.com)

*"A generation ago most jobs and careers were pretty narrow in their focus. Today's worker can expand and grow and develop across this truly breathtaking global and digital economy."*



A handwritten signature of Bill McDermott in black ink.

**Bill McDermott**  
CEO  
SAP



www.sas.com

“The skills gap jeopardizes America’s position as the world’s foremost country in innovation. We must bolster education at all levels to ensure we have the current and future talent to seize jobs in analytics, data science and other high-demand STEM fields.”

### Summary of Initiative

Through university degree and certificate programs, free software, and communities of SAS users, [SAS Academic Programs](#) create the analytics and data skills in high demand by organizations around the world.

### The Need

By 2024, the U.S. economy could be short as many as 250,000 data scientists, according to a [McKinsey Global Institute \(MGI\) study](#). This can prevent organizations from using data to improve operations. However, the persistent analytics skills gap also presents tremendous opportunities for students and adult learners. MGI states that the average wages for data scientists rose by about 16 percent between 2012 and 2014, compared to a 2 percent increase in wages overall.

### The Solution

SAS partners with graduate and undergraduate programs around the world to create degree and certificate programs that generate the analytical talent organizations need to make the most of big data. To date, SAS has helped launch 63 master’s and undergraduate degrees and 144 certificate programs in analytics and related disciplines. This includes the master of science in analytics at North Carolina State University, the nation’s first analytics master’s degree.

SAS has provided training to thousands of professors, at no cost, to help them incorporate SAS into their teaching. SAS also offers free software for research and for teaching and learning valuable analytics skills. People can jump-start careers and make themselves highly attractive to talent-hungry employers by building analytics expertise.

SAS trained more than 100,000 customers and employees in 2016 and awarded 17,240 certifications. To keep SAS workers skilled up, all SAS training courses are free to employees. The company encourages employees to move within the company to take on new challenges and skills.

### Partnerships and Enabling Public Policies

For 40 years, SAS has worked with countless universities, colleges and community colleges to integrate SAS software into teaching and learning. Beyond higher education, SAS partners with K-12 institutions and organizations representing minorities, women, veterans and the disabled to open up more opportunities for more people. SAS also partners with global training providers to help professionals gain data science and analytics skills.

### Outcomes/Benefits

While the degree and certification programs are at different stages of maturity, the graduates of North Carolina State’s master’s program represent the potential for these programs. For the 109 graduates in the 2016 class:

- ⦿ The average salary was \$93,250, with a \$10,500 signing bonus;
- ⦿ 99 percent had one or more job offers by graduation; and
- ⦿ The median number of job interviews before graduation was 10.

In addition, downloads and registrations of free SAS software exceeded 900,000 last year. More people are putting their new skills to use as the number of SAS certification exam attempts soared 19 percent in 2016, indicating strong, growing interest in valuable SAS certifications.



**Jim Goodnight**  
CEO  
SAS



## Summary of Initiative

Strengthening the Talent Pipeline is Shell's strategic platform for promoting STEM (science, technology, engineering and math) education, with a focus on ensuring the industry's readiness to meet the energy challenges of the future. The heart of Shell's efforts is in the classroom — with teacher professional development, K-12 educational programs and workforce initiatives geared toward technical workers.

## The Need

The National Math & Science Initiative has projected that by 2018, 63 percent of all jobs in the United States will require postsecondary education. Beyond this, there are numerous gaps in certain skillsets and students from diverse backgrounds pursuing STEM careers. The Commerce Department's Economics and Statistics Administration found that while women currently constitute 48 percent of the U.S. workforce, only 24 percent are employed in STEM careers, with fewer than 15 percent as engineers.

## The Solution

Shell has a multipronged program to address STEM skill shortages:

- ◉ **Teacher Professional Development.** In partnership with leading science organizations, our program seeks to give teachers new skills and science knowledge. This helps address student science and math proficiency gaps and increase awareness of careers in energy.
- ◉ **K-12 STEM Initiatives.** Student-focused initiatives include lively STEM competitions, science-based summer camps, dual-credit high school programs geared toward technical degrees and video games such as our innovative *Hydrocarbon Hunt*® app.
- ◉ **Postsecondary Education.** For students pursuing four-year degrees in engineering and geosciences, Shell works with universities to identify top students and provide scholarships, mentoring and internships to create a diverse pool of technical talent from which to recruit.
- ◉ **Building Technical Skills.** Shell's *Date with Destiny* program, now in its ninth year, is a unique forum designed to introduce women to careers in energy. So far the program has reached hundreds of female candidates near our assets in Texas, Louisiana and California.
- ◉ **Scholarships and Internships.** Our scholarship and internship program is a key building block in our strategic plan to create a pipeline of talent from elementary school to high school and community college (near our assets) to placement in jobs at Shell or in our supply chain.

## Partnerships and Enabling Public Policies

For our STEM education efforts, we partner with the National Science Teachers Association, the National Energy Education Development Project and the Houston Hispanic Forum. To improve demographic representation in the STEM fields, we have partnered with Smithsonian Science Foundation to attract and retain minority science teachers across the country. Shell works with four-year universities and local community colleges to ensure access to technical education for top talent.

## Outcome/Benefits

Each year, more than 1 million students are touched by our STEM programs, and an additional 15,000 teachers (in 3,000 schools) benefit from Shell-sponsored teacher professional development. Last year, more than 90,000 parents were engaged in college readiness programs. Our workforce development initiatives convert nearly 70 percent of scholarship recipients to full-time employees, and more than 90 percent of our first-year interns are invited back for a second year.



[www.shell.us](http://www.shell.us)

"Shell's efforts focus on attracting students to technical curricula, improving academic performance and developing future generations of technical professionals who will solve the world's most challenging problems."



A handwritten signature in dark ink that reads "Bruce Culpepper".

**Bruce Culpepper**  
President  
Shell Oil Company

“The key to Siemens’ success in the United States, where we’ve been active for more than 160 years, is having a highly skilled manufacturing workforce. By adapting the German-style apprenticeship model to our largest market, Siemens is demonstrating a proven approach to industrial reskilling that adds value to U.S. industry, strengthens families and communities, and supports our economy.”

## Summary of Initiative

Siemens has developed a formula for success when it comes to helping to address the skills gap. As a company whose technology supports dozens of industries and thousands of companies worldwide, Siemens understands the skills required to not only run its technology but also drive the industry forward. In order to bridge the skills gap and help equip workers with the skills needed to operate this technology, Siemens is creating public-private partnerships bringing together industry, academia and government.

## The Need

With approximately 10,000 manufacturing employees in the United States, manufacturing is the backbone of Siemens, and the company is committed to reinvigorating America’s manufacturing engine. But as the digital revolution reaches manufacturing, shop floor skills are undergoing rapid change, and Siemens has often struggled to find skilled workers for advanced manufacturing plants.

## The Solution

Siemens is working to close the skills gap through what we call industrial reskilling. Our core effort has been to adapt the proven German-style apprenticeship model to the U.S. market, where we provide on-the-job training with community college partners to train workers. We started in Charlotte, NC, and have since expanded our apprenticeship programs to three more cities. Additionally, to encourage other companies to replicate these efforts nationwide, we worked with Alcoa, Dow, the National Association of Manufacturers and the Department of Labor to develop a playbook for other manufacturers seeking to launch similar programs.

## Partnerships and Enabling Public Policies

Each apprenticeship program includes a partnership with a community college.

In Charlotte, NC, Siemens partnered with Central Piedmont Community College in 2011 to launch Siemens’ Charlotte Apprenticeship program. The apprenticeship program leverages the Mechatronics and Computer Integrated Machining curricula to build machining and maintenance skills. The program targets young adults and veterans for new entrants.

In Alpharetta, GA, our academic partner is Lanier Tech Community College. Plans are underway to start a new apprenticeship program focusing on Manufacturing Engineering and Quality; it is expected to launch in 2018.

In Sacramento, CA, Siemens is working with Sacramento Employment & Training Agency and Los Rios Community Colleges to offer a Welding Boot Camp. This is upskilling Sacramento residents and veterans, providing the necessary skills required to apply for a job as a welder.

## Outcomes/Benefits

Siemens understands that developing a highly skilled workforce in the United States goes beyond our bottom line. It adds value to the industries we work with, strengthens our families and communities, supports our economy, and builds the middle class.

Graduates of the Siemens apprenticeship program earn an international industry certification, an associate degree and an apprenticeship completion certificate. They graduate with no debt, a guaranteed job at Siemens and a starting salary of around \$55,000 a year. This year Siemens committed to doubling the size of our apprenticeship program.



**Lisa Davis**  
CEO, Siemens Corporation  
Siemens AG

### Summary of Initiative

The SIRVA cross-training initiative is designed to help current employees upgrade their skills by learning similar job roles in different business areas. They are prepared to transition to the new business area, allowing them to learn and grow into business leaders across all business areas.

### The Need

SIRVA's business in global mobility has the need to develop talent internally as the industry is very specific and not an area that employees "train" in academically. Given the specific business, the need to retain talent is significant and can be costly. We found a dramatic need to provide opportunities for advancement that provide team members an opportunity to grow within the company, rather than looking externally.

### The Solution

SIRVA created a cross-training program to provide employees two opportunities: (1) Gain experience in another business unit and (2) participate in and complete critical business skill courses online. The company has created an opportunity for team members to transition from one business area to another. This allows SIRVA to have team members with broad-based mobility experience and knowledge. This blended skill set is in high demand in the mobility industry and allows us to have a competitive advantage with our clients. It also provides our associates with an advanced skill set and knowledge that are highly sought after in the marketplace as well as provide them with additional career opportunities given their expanded skill set.

We have also developed an opportunity for employees to develop skills in critical business areas, including communication, customer service, time management, project management and managing expectations. SIRVA partners with SuccessFactors (SAP) as well as online learning partner Open Sesame to provide relevant courses to help employees with these critical development areas. The online courses, ranging from 30 minutes to several weeks, are available to all employees at no charge.

### Partnerships and Enabling Public Policies

In addition to the cross-training program, SIRVA has partnered with a number of universities to recruit internship students. These internships provide students the opportunity to gain industry-specific skills prior to graduation. We have partnered with University of Illinois — Chicago, John Carroll University, Kent State University, University of Washington, St. Francis and DePaul University to recruit these students.

### Outcomes/Benefits

SIRVA cross-training has provided the opportunity for more than 200 employees to broaden their knowledge, strengthen their skills and develop opportunities to grow within our company. As a result, we have retained employees, saving the company a minimum of \$100,000 in 2016 alone.

"SIRVA has created an opportunity for team members to transition from one business area to another, which allows the company to have team members with broad-based mobility experience and knowledge."



**Wes W. Lucas**  
President and Chief Executive Officer  
SIRVA, Inc.

“Our research about the future of work shows the nature of jobs is changing. We embrace technological advancements, globalization and other factors, preparing employees for tomorrow’s challenges and opportunities.”

## Summary of Initiative

Steelcase’s Human Resources department proactively works to provide programs and processes that enable the company to tackle the skills gap in the United States head on. The company is committed to identifying people’s total potential and providing opportunity for them to learn, gain hands-on experience and develop a transversal career that will be relevant as the workforce evolves into the future.

## The Need

McKinsey predicted a shortage of as many as 1.5 million managers and analysts with analytics skills by 2018. Similarly, a 2015 Deloitte report noted that over the next decade, nearly 3.5 million manufacturing jobs will open, but the skills gap is expected to result in 2 million of those jobs going unfulfilled. Steelcase is committed to connecting the right people with the right job opportunities and providing educational opportunities to ensure a smart, skilled workforce for the future.

## The Solution

**Phased Retirement Program:** This program enables employees to reduce their hours gradually before retiring, while imparting knowledge and expertise to the next-generation workforce.

- ⊙ Employees who have attained 76 points (age plus years of continuous service) are eligible to participate in the program.
- ⊙ The program is available for a minimum of six and a maximum of 24 months. All employees in the program will work a minimum of 16 hours and not exceed a maximum of 30 hours per week.
- ⊙ Employees’ base pay is prorated based on the number of hours they are working. In addition to base pay, employees will receive a wage-loss supplement.

**Skilled Trades Apprenticeship Program:** This program educates employees who want to grow into roles as future machine repairpersons, electricians, and tool and die makers — traditionally difficult job positions to fill from outside the organization. It provides an opportunity for individuals who seek to develop the advanced skills needed to troubleshoot and repair complex machinery and tooling.

- ⊙ An apprenticeship requires 8,000 hours of on-the-job training while attending classes at a community college over four years.
- ⊙ At the completion of the program, the apprentice receives journeyman status from the U.S Department of Labor.
- ⊙ Steelcase pays for classes as long as grades are a C or better and provides reimbursement for the cost of books.

## Partnerships

- ⊙ Steelcase currently partners with local community colleges, including Grand Rapids Community College and Calhoun Community College, to educate apprenticeship participants.

## Outcomes/Benefits

- ⊙ The phased retirement program enables Steelcase to retain top performers longer and instill a strategic transition that offers knowledge sharing to the new employee(s).
- ⊙ The skilled trades apprenticeship program provides employees the opportunity to gain education and experience in a skilled trade role paid for and supported by Steelcase.



**Jim Keane**  
President & CEO  
Steelcase Inc.

## Summary of Initiative

Tenet Healthcare recognized an opportunity to close the skills gap for new graduate nurses. Additionally, there was opportunity to provide training to current employees, developing their specialty nursing expertise and allowing Tenet to expand service lines and specialty units in our hospitals. This work contributes to Tenet remaining competitive in the everchanging healthcare market and, most importantly, continuing to provide high-quality care to our patients.

## The Need

Tenet employs more than 130,000 staff, including more than 26,000 full-time registered nurses (RNs). Like other healthcare systems, Tenet faced a nationwide shortage of skilled RNs due to growth in the aging patient population, higher patient census under the Affordable Care Act and a growing population of nurses nearing retirement age. It can be especially difficult to recruit experienced nurses qualified to work in specialized areas (e.g., Emergency Department, Intensive Care Units).

## The Solution

While training curricula were being developed, Tenet discovered an opportunity to partner with the state of California under the Employment Training Panel (ETP) Program and the state of Texas under the Texas Workforce Commission (TWC). Through the ETP Program Tenet was awarded a \$588,760 grant to use with additional new graduate and specialty training. In Texas, Tenet partnered with three community colleges in San Antonio, Houston and El Paso on grants from TWC in excess of \$1.4 million. Through these partnerships, Tenet was able to provide additional advanced specialty training to more than 1,800 RNs in the following areas:

- ⦿ Classroom and clinical preceptor time to ensure strong competency among our newest nurses. This additional training allows new nurses the ability to practice independently in specialty areas.
- ⦿ Computer skills, allowing the nurse to improve documentation, order entry and care planning resulting in improved patient safety and quality outcomes.
- ⦿ Skills in continuous improvement areas such as customer service, critical thinking, problem-solving and conflict resolution, all contributing to an excellent patient experience.
- ⦿ Advanced clinical practice and certification in the areas of neonatal, pediatrics, perioperative, oncology and emergency medicine.

## Partnerships and Enabling Public Policies

Tenet partnered with both the state of California and the state of Texas, along with three Texas community colleges, in a collective effort to promote a skilled healthcare labor market. Tenet aligned needed skills training with each state's program goals, receiving funds to provide additional training to prepare both new graduates and current employees to provide quality care in new specialty services.

## Outcomes/Benefits

RNs receiving this training and certification are able to advance into more specialized treatment areas, advancing both the individual and enhancing the quality of patient care provided in the community. With more than 1,800 RNs affected by this additional specialty training program, Tenet continues its commitment to developing skilled healthcare employees in the communities they serve. Tenet seeks to identify additional partnerships in this area throughout the country.



[www.tenethealth.com](http://www.tenethealth.com)

*"As one of America's largest employers, people are the foundation of our business, and improving the skills of our workforce is essential to enabling us to provide great care to our patients."*



A handwritten signature in black ink that reads "Trevor Fetter".

**Trevor Fetter**

Chairman and Chief Executive Officer  
Tenet Healthcare Corporation

“Innovation is the key to our nation’s future and competitiveness. To innovate, TI and other American companies must be able to hire highly skilled, STEM-capable engineers and technicians.”

### Summary of Initiative

The founders of Texas Instruments (TI) decided more than 85 years ago that the company’s worth was based not only on the strength of its balance sheet but also on its contributions in the locations where it operates. This philosophy remains evident today in TI’s ongoing investments in its local communities to develop and support scalable education programs, with a specific focus on science, technology, engineering and math (STEM).

One such initiative is a multiyear grant from the TI Foundation to Educate Texas to build out a “STEM District” in the Lancaster Independent School District (LISD), a low socioeconomic, high-minority population district in Dallas County. Since 2012, TI, Educate Texas and the Lancaster community have improved student academic achievement and exposure to STEM career pathways. TI Foundation support toward the initiative totals \$7 million through 2016.

### The Need

There are real connections between America’s ability to train the next generation in STEM and our nation’s competitiveness. U.S. jobs in STEM are growing three times faster than non-STEM jobs, with a projected 9 million STEM jobs needing to be filled by 2022. With only 18 percent of bachelor’s degrees being conferred in STEM subjects, there will be insufficient STEM graduates to meet demand.

### The Solution

The TI Foundation, Educate Texas and LISD launched a STEM District to systemically change STEM education at all levels in the district’s 11 schools serving 7,000 K–12 students. This involved a STEM foundational plan, including teaching methods and coursework aimed at student college readiness, community outreach and program sustainability. Specifically it involved leveraging the existing Teacher Advancement Program to provide the structure and time required for teachers to learn, absorb and apply STEM practices; creating industry-informed STEM pathways with opportunities for industry certification/credentials; implementing a rigorous learning curriculum to increase opportunities for accelerated learning options; and establishing a partnership ecosystem to engage higher education, industry, government, community and external support in the creation of the STEM District and student opportunities.

### Partnerships and Enabling Public Policies

TI collaborated with Educate Texas, a nationally recognized, public-private partnership focused on ensuring every Texas student is prepared for success in school and in the workforce.

### Outcomes/Benefits

- ⊙ Standardized math test scores increased from a 65 percent passing rate in 2012 to 72 percent in 2016 (State of Texas Assessments of Academic Readiness [STAAR] test data; all STAAR math tests).
- ⊙ LISD now leads other southern Dallas County school districts in combined standardized test scores (“Best of the Southwest”).
- ⊙ The district has received multiple awards including the National Superintendent of the Year nomination from Texas (2014); Outstanding School Board, Texas Association of School Administrators and School Boards (2016); T-STEM Exemplary Award and T-STEM Innovative Learning Lab Award, Texas Education Association (2016); and Bright Spot Award, Commit! (2017).




**Rich Templeton**  
Chairman, President and CEO  
Texas Instruments Incorporated



## Summary of Initiative

Reaching Potential through Manufacturing (RPM) is a school within a manufacturing facility developed as a partnership between Textron Specialized Vehicles (TSV) and the Richmond County (GA) School System to address the education and skills gaps of local students.

## The Need

Richmond County, GA, is the home to TSV, a Textron Inc. business that manufactures golf cars, utility vehicles, side-by-side vehicles and all-terrain vehicles. Through acquisitions and organic growth, the business has expanded and requires employees with high school diplomas to sustain its manufacturing operations. TSV draws a majority of its workforce from the communities within Richmond County, but preparing an emerging workforce for these jobs is challenging. With only 65 percent of students graduating from Richmond County School System schools, TSV is facing a shortage of qualified employees who can fill these jobs.

## The Solution

With a pressing need for a skilled workforce, TSV partnered with the Richmond County School System to create RPM, a program that gives at-risk students an opportunity to learn a trade and earn money while they complete their high school education. Students are selected for RPM based on the recommendations of high school counselors, who identify those who are most at risk for dropping out.

The RPM students become part-time TSV employees, working four-hour shifts at a TSV manufacturing subassembly facility while taking classes either at their home school or onsite. In establishing the facility for RPM, TSV built classrooms and offices for a principal, teachers and counselors. Recognizing these students face issues related to poverty, homelessness and families with addiction issues, RPM has established a support system to ensure the basic needs of students are being met, including meals, transportation, tutoring and summer school. TSV welcomed its first RPM class of 75 students in August 2016, and the students have been engaged and eager to learn.

It is expected that about one-third of the students who complete the program will be hired full time by TSV, while others will have gained valuable manufacturing experience they can take to another job. Ultimately, RPM is creating a pipeline of talent that is good for TSV, the community, the students and their families.

## Partnerships and Enabling Public Policies

TSV formed a partnership with the Richmond County School System to establish RPM and has worked closely with the school's administration throughout this process. RPM also uses Edgeunity, virtual software to help students catch up on their course credits.

## Outcomes/Benefits

Students in RPM are learning what it means to be accountable and are gaining confidence in themselves.

- ◉ 24 students from the first RPM class graduated in May 2017.
- ◉ Nine students will be hired full time by TSV; TSV is working with local businesses to find employment for the remaining graduates.
- ◉ RPM enrollment has increased to 93 students, three of whom will be participating in an inaugural RPM engineering academy.
- ◉ Average attendance rate for the first year was 93 percent, an improvement of 7 percent (this is significant as these students were absent an average of 25 days during the previous school year).



**Scott C. Donnelly**  
Chairman & Chief Executive Officer  
Textron Inc.

*"Ultimately, Reaching Potential through Manufacturing is creating a pipeline of talent that is good for TSV, the community, the students and their families."*



[www.tsys.com/careers](http://www.tsys.com/careers)

"The IT ED program represents a strategic investment to increase the capabilities of our most important asset — our people."

### Summary of Initiative

The IT ED (Information Technology Education) program consists of an immersion experience targeted toward recent college graduates entering the workforce or persons who are new to the job role. The purpose of the IT ED program is to fast-track the productivity of new talent in these roles and to continue building skills for future talent needs.

### The Need

TSYS has a long history of creating innovative programs to address technology skill needs, dating back more than 25 years. As business demands have changed to reflect the shifts in technology focus and the rate of technology change, TSYS has worked to identify solutions that will address the fulfillment of roles with high-demand skills. In 2011, TSYS identified a need for a large number of Cobol programmers to support a major bank implementation and partnered with Skillsoft, an e-learning provider, to create a mainframe skills program. Fast forward to 2017, and TSYS now is focusing on upskilling our team to new distributed technologies in partnership with Pega Systems and Pluralsight, an e-learning provider.

### The Solution

The IT ED programs are designed to focus on our current business needs as identified by the Corporate Talent Management team in partnership with the CIO. The talent team works closely with IT leaders to create intensive learning programs that immerse the participants into the needed skill set through a series of instructor-led courses, e-learning solutions and mock project work. The key to success is the strong partnership with IT, which supports the program with mentoring, instruction, project submission and hands-on coaching for program participants. Weekly progress reports are provided to the IT leaders with program participant evaluations included. Costs are kept low for the program by using internal subject matter expert resources. Internal resources who provide training to program participants based on their knowledge are compensated by the program with a stipend. Program costs for an average participant in the program are \$16 per day per participant for a 90-day program.

### Partnerships and Enabling Public Policies

The primary partnership is internal, but TSYS has leveraged learning vendor partners, such as Skillsoft, Pluralsight and Interskill, to aid in building curricula for key skills. Additionally, Pega Systems has partnered with Columbus State University to offer a Pega curriculum to support both TSYS and Aflac in the Columbus, GA, market.

### Outcomes/Benefits

Since 2011, more than 100 new hires have been selected to participate in the IT ED program, with a 96 percent retention rate of those resources after two years. In 2015, TSYS received an Honorable Mention for Skillsoft's Innovation Award for Most Innovative IT and Technical Skills Development Program.



**M. Troy Woods**

Chairman of the Board & Chief Executive Officer  
TSYS

## Summary of Initiative

In 2017, Vanguard launched two new financial advisor development programs to increase the talent pipeline of candidates and address the goal of employing advisors, including those who are Certified Financial Planners™, in our Personal Advisor Services (PAS) department.

## The Need

In May 2015, Vanguard launched PAS to offer high-quality, affordable advice to a broader group of retail clients. As a result, Vanguard experienced tremendous growth in our advisor business and needed to quickly add Certified Financial Planners™ to the team. To continue to meet our clients' rising need for advice, PAS expects to add hundreds of new advisors in the coming years.

## The Solution

Vanguard created two development programs to help accelerate advisor talent into PAS. The first is a year-long internal development program, the Internal Advisor Development Program (IADP), for which current Vanguard employees are selected to participate. The IADP provides mentorship, development of business/investment acumen and client relationship management skills, and support on the CFP® curriculum. Upon successful completion of the CFP® exam, participants are promoted into Vanguard's entry-level advisor role. This program offers early-career employees a promotion opportunity and creates a pipeline of entry-level advisors to fast-track to higher-level advice roles.

The second is an external development program, the Financial Advisor Development Program (FADP), designed to identify high-potential talent graduating from CFP Board-certified college programs. FADP participants must pass their CFP® and Series 7 and 66 licensing exams in their first three months of the program. Over a two-year period, participants rotate through various businesses acquiring experiences that meet the requirements to earn their CFP® marks. Participants receive training on business/investment acumen and client relationship management skills along with guidance from mentors.

Designed in partnership with the CFP Board, FADP has been granted the Apprenticeship Exception and accelerates the time requirement to earn CFP® marks from three years to two. The goal of this program is to successfully move new graduate talent through the organization and into advisor roles in less time than the industry standard.

## Partnerships and Enabling Public Policies

Vanguard partnered with the CFP Board (the external governing board for the Certified Financial Planner™ designation) to obtain an Apprenticeship Exception for Vanguard's FADP and with universities that have CFP Board-certified programs to create a talent pipeline.

## Outcomes/Benefits

The FADP initiative expedites the time to obtain a CFP® designation and fast-tracks employees into advisor roles. Early indications from the FADP pilot group are positive — two participants have successfully passed the CFP® exam. The first full cadre of candidates will start in June 2017 in all three of our U.S. locations. Internal candidates have also been identified for the first IADP cadre.

These two new development programs, along with internal and external hiring, will support hundreds of annual hires, provide significant career growth opportunities and enable Vanguard to serve the ongoing advice needs of investors.



<https://investor.vanguard.com/corporate-portal/>

“Our development programs are vital to accelerating advisor talent in Vanguard, building a rewarding career path and ensuring we continue to give our clients the best chance at investment success.”



**F. William McNabb III**  
Chairman and CEO  
The Vanguard Group, Inc.



visa.com

"I want us to have an unwavering commitment to developing the best possible leaders and making sure we're growing the best possible talent we can."

### Summary of Initiatives

Visa has many initiatives to attract a diverse workforce, equip our employees with high-tech skills and serve as a leader in training the next generation of prospective workers.

### The Need

As an innovative global payments technology company, it is imperative for Visa to develop a diverse workforce and ensure that current and new talent have the skills to succeed. Given the rapid pace of change in payments and scarcity of talent in this space, our people need the right training, development and support to deliver best-in-class service to our clients and their customers.

### The Solution

To address the STEM skills gap, Visa has a number of programs to prepare current and future employees.

- ⊙ To build a diverse workforce pipeline:
  - Visa developed a pilot program with the Springboard Initiative, a nonprofit workforce development program in San Francisco to train and place 100,000 high school and community college students from underserved communities in high-tech jobs by 2025. Visa is committed to hiring from this talent pool for placement in our Technology organization.
  - Visa has engaged in several K-12 technology initiatives, including a partnership with CodeNow and Visa University, to convene coding boot camps with high school students in the Bay Area. Visa hosted a two-day program in Foster City in 2016 with Kids' Vision, whose mission is to empower 3rd-6th grade girls by increasing their interest in science, technology, engineering, art+design and math.
  - Visa partnered with the National Academy Foundation, a national network of education, business and community leaders who work together to ensure high school students are college, career and future ready.
- ⊙ To continue building skills for current and future employees, in 2016, the company launched Visa University, which includes a Technology College. This platform helps employees become proficient in the use of new technologies and convenes onboarding boot camps on topics such as Big Data/Hadoop, mobile development, software testing, programming languages, open systems and mainframe technologies.

### Partnerships and Enabling Public Policies

Visa collaborated with several learning providers, including Infosys and Pluralsight, for relevant content and training delivery. The Springboard partnership promises to provide an important path into technology jobs for underserved communities, and our work with the National Academy Foundation will help high-risk high school students succeed with careers in STEM.

### Outcomes/Benefits

- ⊙ More than 600 new college graduates have enrolled in onboarding boot camps and online learning paths.
- ⊙ More than 2,300 technologists have participated in our Technology College.
- ⊙ In 2016, Visa technologists completed 104,310 hours of learning, more than 26 hours per employee.
- ⊙ In the inaugural year of the Springboard partnership, we will have our first class of high school and community college students on-site for training.



**Alfred F. Kelly, Jr.**  
Chief Executive Officer  
Visa Inc.

## Summary of Initiative

As a community pharmacy, we need great talent that reflects the communities where we operate. We've found creative ways to partner with external nonprofit agencies and to tap into our own colleagues' experiences and expertise as we attract and empower people who can make a difference for our customers.

## The Need

Walgreens Boots Alliance employs 360,000 people. In the United States alone, we have 247,000 employees, many of them working in our Duane Reed or Walgreens stores. We're a community pharmacy, and the care that our employees offer our patients is the foundation of our company and a key reason people choose to visit our stores.

## The Solution

To maintain this competitive advantage, we continually look for opportunities to attract and engage diverse, talented people. Here are four examples:

In Chicago we have more than 140 retail stores and our corporate offices and headquarters. Since 2013, we've partnered with Skills for Chicagoland's Future (SCF), a public-private partnership working to match businesses that have current, unmet hiring needs with qualified, unemployed/underemployed job seekers. We're piloting a youth hiring initiative that involves a job readiness "boot camp," hiring for entry-level store or pharmacy roles from communities of need, and the opportunity to earn industry-recognized credentials. Our goal is to help address the youth unemployment crisis by creating a best-in-class, scalable model promoting employment, education, careers and improved health outcomes.

Internally, we have nine highly active Business Resource Groups: employee think-tanks that help us retain and advance our best talent while driving diversity and inclusion through their advocacy. For example, our Women at Walgreens group is focused on providing developmental opportunities for women so that we can hire, develop, retain and promote women and other diverse talent.

Walgreens has long created opportunities for people with disabilities through industry-leading policies and practices. Our "same job, same performance" model applies across our distribution network, retail stores, support center and field operations. More than 900 team members in our distribution centers self-identified as individuals with disabilities in 2016. And more than 1,300 individuals with disabilities have completed retail and customer service skills training in our stores since 2012.

Finally, working with nonprofit community partners, we've developed a unique temp-to-hire model. An important part is a 12-week Transitional Work Group, where attendees learn our culture, develop communication skills, train through simulations and gain practical experience. Once they achieve a 90 percent productivity level — which almost all do — they're eligible for hire.

## Partnerships and Enabling Public Policies

Our partnerships with SCF and a range of nonprofit community partners have helped us source and engage talented people in our stores and distribution centers.

## Outcomes/Benefits

Since 2014, we've hired more than 35 candidates through SCF, and our current pilot will help us access great talent for the future, providing a proof of concept for other businesses.



Walgreens Boots Alliance

[www.walgreensbootsalliance.com](http://www.walgreensbootsalliance.com)

"Our ability to hire talented, diverse people who contribute to their community and care for our customers and patients creates meaningful competitive advantage. Our people are a force for good!"



**Stefano Pessina**

Executive Vice Chairman and Chief Executive Officer  
Walgreens Boots Alliance



corporate.walmart.com

“Everything we do begins with our associates. That’s why we have invested in training academies for associates to further develop the skills they need to better serve customers and succeed in a rapidly changing retail environment. Walmart is a place where anyone can fulfill their potential.”

### Summary of Initiative

Retail is undergoing rapid change, as technology enables customers to shop anytime and anywhere they choose. To meet the evolving needs of customers in this emerging age of retail, Walmart has launched a number of programs designed to provide new training and skills for its associates.

In addition to investing in its associates, Walmart and the Walmart Foundation launched the Retail Opportunity Initiative, a five-year, \$100 million sectorwide effort aimed at strengthening the transferability of skills of the U.S. retail workforce and developing ways to make it easier for frontline workers to advance their careers.

### The Need

Providing opportunity is more important than ever. According to a study from Programme for the International Assessment of Adult Competencies, lower-skilled workers make up a significant part of the U.S. adult workforce. With an average of 300 positions in each of our U.S. supercenter stores, Walmart can provide opportunity for workers to learn important — and transferable — job skills.

### The Solution

We see each job as a pathway to greater opportunity, whether it’s within Walmart, within the sector or in another industry entirely.

Walmart introduced **Pathways**, a comprehensive training program for U.S. entry-level associates designed to create clearer career pathways from entry-level jobs to those with increased responsibility and higher pay.

Walmart also launched the **Academies** training program, which teaches advanced retail skills, leadership skills and specifics of how to run departments to assistant managers, department managers and frontline hourly supervisors. The Academies are dedicated facilities that offer two to six weeks of hands-on, immersive learning, combining both classroom study and training on the sales floor. The Academies also serve as training hubs for specialist roles and new, technology-enabled initiatives like Online Grocery Pickup.

### Partnerships and Enabling Public Policies

Walmart and the Walmart Foundation partnered with the NRF Foundation to launch a new training and credential initiative — RISE Up (Retail Industry Skills and Education), which was designed by the retail industry to help people acquire the skills they need to secure jobs in retail and advance in their career.

### Outcomes/Benefits

The Walmart Retail Opportunity Initiative is proving successful for associates and the retail industry.

- ⦿ Since 2016, more than 52,000 associates have graduated from Academies, with more than 225,000 associates on track to complete training in 2017.
- ⦿ Through Walmart’s Lifelong Learning initiative, 7,185 associates have enrolled in our high school programs, and 74,000 associates have enrolled to use Rosetta Stone to learn languages. Another 8,500 associates have started college. In FY2017, more than 1,700 scholarships were awarded to associates and their dependents through funding from the Walmart Foundation.
- ⦿ Our investments have enabled 8,000 people to be trained in retail or adjacent sectors, helped more than 1,200 advance their careers, and provided support services to more than 44,000 prospective and current retail workers.



**Doug McMillon**  
President and Chief Executive Officer  
Walmart



## Summary of Initiative

Wells Fargo's commitment to building and sustaining a diverse and inclusive culture encompasses veterans with programs and strategic partnerships underway to attract, develop and retain veteran team members.

## The Need

Creating an environment where team members feel included, valued and supported is essential to engaging and inspiring them. Engaged team members drive greater customer satisfaction and extraordinary business results. Wells Fargo values the leadership, integrity and service record of military members and veterans and is committed to increasing its veteran team member population to 20,000 by 2020.

## The Solution

To achieve this goal, Wells Fargo's approach includes elements that focus on recruitment, development, engagement and retention.

- ⊙ Attracting veterans and enabling their career transition:
  - We launched the ApprenticeshipUSA program in May 2017, which provides veterans the opportunity to earn a salary and leverage GI Bill benefits while learning additional skills necessary to succeed in high-demand civilian careers.
  - We offer a Veteran Employment Transition (VET) Internship program focusing on training veterans transitioning to the financial industry.
  - We participate in military career fairs, attending more than 900 events across the country in the past five years.
  - We take part in American Corporate Partners mentorships and in scholarships and emergency grants through Scholarship America.
- ⊙ Engaging and developing veteran team members:
  - Our Diverse Leaders Programs include a Veteran Leaders program and provide an opportunity for team members who identify with certain diversity dimensions to feel included, valued and further develop their leadership skills.
  - Our Veterans' Team Member Network provides team members with personal and professional development, mentoring, networking and community outreach opportunities.

## Partnerships and Enabling Public Policies

To source and support veterans transitioning to civilian careers, Wells Fargo has established partnerships with many military organizations, including RecruitMilitary, Veteran Recruiting Services, MBA Veteran, VetReady, Military Spouse Employment Program, Hiring Our Heroes, Military.com, Service Academy Career Conference, Hirepurpose, Student Veterans of America and regional/local partnerships. We have forged a partnership with No Barriers USA, a nonprofit organization empowering youth, veterans and people with disabilities through transformative experiences to break through barriers.

## Outcomes/Benefits

Continuing to see positive trends toward our goal, we currently employ more than 8,500 team members who self-identify as veterans. Our veteran hiring rate continues to increase, and we are converting veteran applicants to hired team members nearly twice as often as non-veteran applicants, indicating the attributes that veterans bring align to the qualities sought in Wells Fargo team members. Our Veterans' Team Member Network boasts more than 5,900 members and 31 active chapters. Describing the experience as powerful and life-changing, our Diverse Leaders Program alumni are more likely to stay and be promoted with Wells Fargo than their non-alumni peers. These programs are helping team members in diverse segments engage and grow as leaders and helping us foster a culture that promotes and celebrates diversity and inclusion.



<https://www.wellsfargo.com/about/diversity/diversity-and-inclusion/>

"We are committed to hiring and retaining military veterans, veterans with disabilities and active military personnel. We recognize their military experience brings tremendous talent, leadership and strength to our organization."



**Tim Sloan**  
Chief Executive Officer and President  
Wells Fargo & Company



www.wipro.com

"In 2016–17, more than 32,500 of our global workforce built depth by certifying in one skill related to technology of the future."

### Summary of Initiative

To ensure that our workforce is relevant and sustainable in the disruptive digital services economy, Wipro designed TReND.Nxt — an **initiative to multiskill** our technical workforce so that they are prepared to provide new-age services for our customers.

### The Need

The rapidly changing digital economy has caused great disruption in the needs and service requirements of our customers. To ensure that our customers keep pace with this change, our employees must have the relevant depth in certain technical skills as well as a wide range of knowledge in associated skills.

### The Solution

To meet this new demand on our workforce, Wipro launched TReND.Nxt. This innovative learning initiative aligns our business needs to the aspirations of our employees. Each year employees are encouraged to be certified in:

- ⊙ One skill related to technology of his/her business unit to create depth;
- ⊙ One skill relevant to the current project to enable width; and
- ⊙ Additional skills based on his/her career aspiration trending within industry.

The initiative, which is available to all employees, is supported by more than 1,800 e-learning modules in our Integrated Talent Management System and 1,850 off-the-shelf massive open online courses.

To maximize this initiative, a system of credit points was introduced. Points are assigned to each skill and the level associated with that skill. After an employee becomes qualified for a particular skill, the employee is awarded points based on his/her training score. To build a sense of motivation and competition among the employees:

- ⊙ Leader boards are shared across business units, generating a competitive spirit;
- ⊙ A contest was run among employee-formed teams; and
- ⊙ The accumulated credit points are linked to an employee's career progression.

Bonus credit points are also awarded for contributing to the creation of learning content and training delivery. This encourages employees to contribute in a crowdsourced model for learning initiatives.

Data analytics-based visual dashboards are implemented to showcase to every employee high-demand skills as per the business needs. The dashboards are also accessible on the employee's portable devices. Bonus credit points are given to those who acquire high-demand skills.

### Partnerships and Enabling Public Policies

In addition to content designed and developed in house by our subject matter experts and faculty, we have partnered with Microsoft, Oracle and Udemy.

### Outcomes/Benefits

In 2016–17, more than **32,500 of our global workforce** built depth by certifying in one skill related to technology of the future. More than **29,000** of these employees also built width by acquiring additional skills relevant for their current project and their aspirations.



**Abid Neemuchwala**  
CEO and Executive Director  
Wipro Limited

## Summary of Initiative

Xerox has accomplished something remarkable. In 2017, Xerox separated into two independent companies while simultaneously completing the largest launch in its history, releasing an integrated portfolio of 29 new products. Throughout this transformation, Xerox has recognized that the expertise of its people and talent pipeline is critical for business results and is investing accordingly. Talent development plays a critical role in fueling business growth, so Xerox introduces new technology and high-impact practices to drive global workforce capability and integrate learning with work.

## The Need

Following the company split, the global workforce includes about 37,000 employees, plus about 70,000 nonemployees and authorized partners who rely on Xerox for upskilling and certification. More broadly, Xerox is driving the evolution beyond event-based *training* to a culture of *learning* and from learning to *talent development* aligned to a new integrated talent management and organizational capability framework with technology enablers as a business growth engine.

## The Solution

Learning innovation is a business necessity driven by changing marketplaces and evolving workforce needs. Xerox is leveraging innovation to improve the talent development process and accelerating our use of technology for skill acquisition. This includes proprietary virtual hands-on labs delivered through a hybrid cloud environment for remote access to the controllers (brains) for our product portfolio. We provide an enterprise learning ecosystem that includes an on-demand collection of thousands of acquired and custom resources and curated tracks. This reflects a multimillion-dollar annual investment for a wide range of solutions from leading suppliers. It includes technical certification prep, such as information technology (IT) and networking, project management, business, professional, and digital skills development — as well as Xerox certifications supporting our launches. Our leadership development gateway supports managers for business transformation initiatives. To leverage the global workforce through collaborative learning, Xerox emphasizes “workforce knowledge sharing” initiatives, which allow individuals to show, share and lead among peers. We engage through a user-generated video sharing platform, which allows global distribution of best practices. Contributors are able to share with senior management, benefiting from professional development and recognition that leads to advancement and business results.

## Partnerships and Enabling Public Policies

Beginning in 2015, Xerox was engaged by The White House National Economic Council to participate in the President’s Upskill America Summit. Xerox was also cited in The White House report. Subsequently, Xerox participated in policy sessions with the U.S. Senate HELP (Health, Education, Labor and Pensions) Committee and Bureau of Labor Statistics.

## Outcomes/Benefits

- ⦿ Global access: Annually, more than 1 million launches of learning resources.
- ⦿ Workforce knowledge sharing: Globally, more than 10,000 user-generated videos.
- ⦿ Corporate learning transcript: Online for employees and managers.
- ⦿ Innovation: Leveraging historic 2017 product launch to pilot industry-leading solutions that improve employee engagement in learning, retention and application.
- ⦿ Industry recognition: Bersin by Deloitte, Corporate Executive Board and industry publications.



**Jeff Jacobson**  
CEO  
Xerox Corporation



<https://www.xerox.com/corporate-citizenship/2016/workplace/talent-management.html>

“Xerox recognizes the importance of our workforce and the critical skills necessary to bring value to our customers, so we invest in the development of our people as a growth engine.”



www.zoetis.com

“Talent is one of the most important investments we can make in the success of Zoetis, so we provide experiences that both develop colleagues and enhance how we serve customers.”

### Summary of Initiative

**We believe talent is one of the most important investments we can make in the success of Zoetis.** Since we spun out of Pfizer in 2013, we have established ourselves as an independent company with a singular focus on animal health, and we have created our own approach to talent development.

### The Need

In the past four years, we have completed many organizational changes to position us for accelerating growth, but we must address skill gaps in emerging and highly specialized areas.

### The Solution

Our talent development program, Your Development Matters, begins with a comprehensive Individual Development Plan (IDP) as its foundation. With this information, we work to develop colleagues primarily through experiences, complemented by courses, programs and interactions with other colleagues. For example:

- ⊙ The President's Leadership Development Program in the United States is designed to develop high-potential colleagues into future leaders by providing experiences in which they solve business problems outside of their normal responsibilities and participate in a cross-functional team.
- ⊙ Our R&D organization maintains a talent portal where short-term, developmental opportunities are posted, allowing colleagues to apply for them.
- ⊙ Colleagues can utilize our 360 feedback process, which is intended to provide insight about how their performance aligns with our definition of good leadership behaviors.
- ⊙ Online resources, such as Harvard Manage Mentor, provide access to videos, interviews, etc. on management topics.
- ⊙ Our Tuition Reimbursement Program offers full-time eligible colleagues up to \$10,000 annually for tuition and other expenses at approved schools.

### Partnerships and Enabling Public Policies

We also believe it is important to work with veterinary students, associations and schools to help with skill development since they may someday become valued colleagues — or customers — for Zoetis. For example, we support the National FFA Organization, an American youth organization that promotes agricultural education; the Zoetis Veterinary Student Scholarship Program, which awards scholarships to veterinary students; and VETVANCE, a free online educational resource for students and recent graduates.

### Outcomes/Benefits

Early outcomes include:

- ⊙ A very stable and engaged workforce with an annualized voluntary turnover rate of 5.7 percent and an 85 percent engagement rate.
- ⊙ Successful retention of key talent at every level of the organization.
- ⊙ Internal promotions and movement, with approximately 10 percent of our U.S. workforce being promoted in 2016.
- ⊙ Continuing education, with 330 colleagues having been supported in obtaining degrees, the majority of whom obtained advanced degrees.
- ⊙ Nearly \$6 million in scholarship funding since 2011 awarded to more than 2,700 veterinary students.



**Juan Ramon Alaix**  
Chief Executive Officer  
Zoetis





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