

# 2017 ANNUAL REPORT

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## CHIEF EXECUTIVE OFFICER'S MESSAGE

Dear Colleagues,

As technologies infuse business operations, many companies have become increasingly digital-intensive organizations, evolving their business models and talent requirements. This evolution creates an ever-growing need to reexamine the skills individuals need to succeed. As technologies advance, companies need T-shaped professionals—digitally literate individuals with domain knowledge and higher-order skills, such critical thinking, problem solving, and effective communication.

The Business-Higher Education Forum (BHEF) is the nation's oldest membership organization of senior business executives, college and university presidents, and other leaders working toward a shared goal: harness the expertise of business and higher education to address the need for a diverse pool of high-performing professionals equipped to excel in a rapidly evolving digital workplace.

BHEF's five-year effort, the National Higher Education and Workforce Initiative, directly responds to the need for T-shaped digital professionals and continues to generate powerful strategic insights. Our Strategic Partnership Implementation Process, coupled with market research and workforce analysis in cybersecurity and data science and analytics and fortified by a decade of program development, evolved into a powerful tool for our members to build new or expand current partnerships. Our member companies developed a full suite of talent acquisition and development solutions to address skills gaps in critical fields and strengthen their business models. Our academic members built new programs that expose undergraduates to digital fields and provide work-based learning through paid internships and designated mentors. BHEF academic members also responded to industry needs related to working professionals with programs to upskill current employees in emerging fields.

This deep reservoir of market intelligence and actionable insights has accelerated new partnerships, enabling our members to achieve key program development milestones earlier and enjoy greater success than in the past. We were delighted to showcase these accomplishments through two signature AtlanticLIVE events, *Defending the Web* and *Crunching the Numbers*, and reports such as *The Quant Crunch* and *Investing in America's Data Science Talent*.

Our members recognize the power of partnerships as the foundation for innovative talent solutions. Through BHEF, they share perspectives and strategies that enhance higher education opportunities and promote greater participation by women, minorities, and underrepresented students.

We are grateful for our members' continued confidence and generous support, as well as the essential funding we receive from private philanthropies, government agencies, and other stakeholders. Without their engagement, we would not have achieved the significant milestones this report details. My team and I are especially grateful to our remarkable board of directors. Their leadership and wise counsel enabled BHEF to continue its trajectory of innovation and success in 2017 and positioned the organization for even greater achievement in the future.

Regards,



**Brian K. Fitzgerald, Ed.D.**  
Chief Executive Officer



“Our members recognize the power of partnerships as the foundation for innovative talent solutions.”

# A YEAR OF IMPACT

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**IN THE FACE OF RELENTLESS TECHNOLOGICAL CHANGE** and automation, the challenge to align higher education with the demand for high-skill employees has never been greater. The Business-Higher Education Forum's strategy guides its members to develop innovative workforce solutions. For almost four decades, it has brought together CEOs and college and university presidents to respond to the critical need for a highly skilled, high-performing workforce.



BARBARA R. SNYDER, MARK OAKLEY, LARRY DIETZ

Through the National Higher Education and Workforce Initiative, BHEF has developed strategies to help business and higher education recognize and address critical gaps in digital workforce skills, as well as anticipate the disruptions that lie ahead. Identifying and quantifying this high-skill gap is the first step; finding nimble solutions and academic pathways into the ever-evolving digital environment involves negotiation and collaboration. This is where BHEF brings its unique approach.

BHEF guides business-higher education partnerships to a shared goal: to provide students with an academic pathway to career success and ensure employers access to a pipeline of diverse, high-skilled, workforce-ready graduates. Increasingly, these partnerships involve regional alliances, an advantage for employers who wish to hire qualified employees from their respective regions.

To drive and support these partnerships, and as part of the strategic vision adopted by its board of directors in 2016, BHEF executed a market intelligence strategy that identified technology-driven workforce trends, issued reports to inform talent development strategies for digital-intensive organizations, and positioned BHEF to implement its vision through high-profile thought leadership events. These activities situated BHEF as a national leader in high-skill talent development, which BHEF confirmed in 2017 through actionable market intelligence and thought leadership.

BHEF's Strategic Partnership Implementation Process, refined over years of rigorous business-higher education collaborations, has been successfully applied to high-skill talent development in many fields. In 2017, BHEF brought its experience and insight to bear in addressing a variety of workforce needs, with particular emphasis on cybersecurity and data analytics.

In addition to support and guidance on partnerships, BHEF convenes members and experts for a robust exchange of ideas and experiences. BHEF prides itself on providing accurate market intelligence that defines the challenges and identifies member-driven thought leadership and proof points. BHEF draws on the wisdom and insight these sessions generate, along with research and survey data to publish

reports, case studies, and research briefs that share replicable, scalable methods with a broad audience. BHEF provides access to these publications at [bhef.com/publications](http://bhef.com/publications).

BHEF launched the "AI for All" project in December, where it led members on a deep dive into the reality of artificial (or automated) intelligence (AI). Once the realm of science fiction, AI will increasingly alter the workplace and the workforce—even transform the nature of work. In 2018, BHEF's AI Working Group will develop profiles of ideal AI candidates and a map of AI competencies, while BHEF's market intelligence will continue to offer insights on the challenges and opportunities that lie ahead.

“The goal is really to shift the interaction between business and higher education from the transactional relationship to strategic partnerships.”

BARBARA R. SNYDER / PRESIDENT  
CASE WESTERN RESERVE UNIVERSITY



# MARKET INTELLIGENCE & THOUGHT LEADERSHIP

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**BUSINESS AND HIGHER EDUCATION MEMBERS** can stay ahead of the curve with BHEF's market intelligence and thought leadership about emerging high-skill needs and scalable solutions to workforce challenges. As part of its commitment to broadly share important findings, BHEF published a variety of reports and case studies, and hosted a number of high-profile convenings in 2017.

As a recognized thought leader, BHEF provides credible and informed perspectives on workforce issues. BHEF advanced a national dialogue about the growing demand for a workforce equipped with data analytics and cybersecurity skills—and the shortfall of college graduates prepared for the deep technology needs of the workplace. As part of its market intelligence function, BHEF convenes experts to develop a better understanding of these and other workforce challenges.

BHEF continually updates and shares sector-focused approaches in publications and at high-profile events that bring together BHEF members and others. Additionally, BHEF's member case studies provide valuable insights, solutions, and a replicable road map for like-minded business and academic partners who seek to build diverse, high-talent ecosystems.

In 2017, those publications and events included:

AtlanticLIVE FORUM / MARCH 2018

## CRUNCHING THE NUMBERS

BHEF and PricewaterhouseCoopers (PwC) co-sponsored **Crunching the Numbers: An Atlantic Forum on Data Analytics & Tomorrow's Workforce** in March. Leaders from business, higher education, and government examined emerging workforce needs for data science and analytical skills and how academic institutions can respond. BHEF underwrote the event with generous support from PwC.

Concurrent with the event, BHEF released ***Investing in America's Data Science and Analytics Talent: The Case for Action***, prepared in partnership with PwC. Each session of Crunching the Numbers noted that jobs in the U.S. increasingly require data science and analytics skills. The current shortage demonstrates that business-as-usual strategies won't satisfy the growing need.

The report identified eight actions to re-align the demand for high-skilled professionals with supply, including:

1. **CLARIFY DEMAND** with signals that motivate educators and job seekers;
2. **ENABLE ALL STUDENTS** to become data literate and open more routes to data science; and
3. **EXPAND CAREER PATHWAYS** that lead to a diverse analytics workforce.

The set of recommendations are available on [bhef.com/publications](http://bhef.com/publications).



AtlanticLIVE FORUM / MAY 2018

## DEFENDING THE WEB

BHEF and Northrop Grumman co-sponsored **Defending the Web: A Forum on Cybersecurity & the Workforce**, a second AtlanticLIVE event in May. Public officials and stakeholders in business and higher education explored the cybersecurity jobs pipeline and the future of the industry. Speakers included a blue-ribbon roster of corporate executives and presidents of academic institutions. BHEF underwrote the event with generous support from the Northrop Grumman Foundation.

In conjunction with the forum, BHEF released ***Invest to Improve: The Cybersecurity Talent Deficit***. This report provides recommendations for cybersecurity stakeholders—employers, government agencies, and higher education institutions—to enable regional partnerships meet the high-skill cyber demand. The report combines data from a 2017 Gallup survey of business executives and higher education leaders with job analyses from Burning Glass Technologies.

To close the expectations gap between employers and educators, the report describes how to:

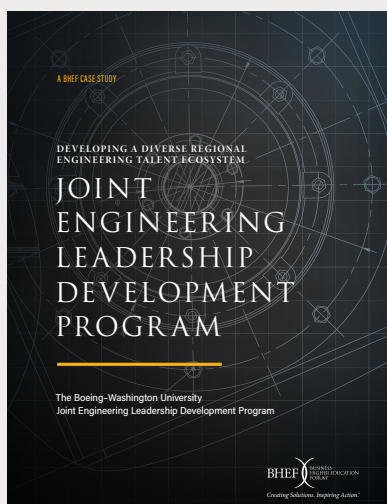
1. **ALIGN INVESTMENTS** to support a cyber workforce;
2. **CREATE NEW MODELS** to develop talent; and
3. **DESIGN INCLUSIVE** educational pathways.

The full report is available for download at [bhef.com/publications](http://bhef.com/publications).



## MARKET INTELLIGENCE & THOUGHT LEADERSHIP PUBLICATIONS

[www.bhef.com/publications](http://www.bhef.com/publications)

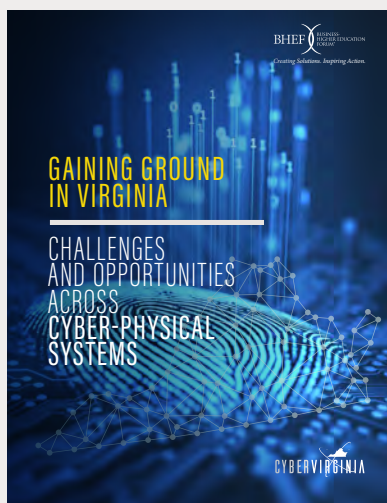


### ***Developing a Diverse Regional Engineering Talent Ecosystem***

Community College to University Pathways Open Doors for Underrepresented Engineering Students

This case study examines how Washington University in St. Louis and Boeing collaborated with St. Louis Community College and the University of Missouri-St. Louis to develop a diverse regional engineering talent ecosystem. Principal takeaways include:

- Community college students are a diverse pool of potential employees
- Working together, regional partnerships can open access to engineering jobs and competitive workforce positions



### ***Gaining Ground in Virginia***

Cyber-Physical Systems Vulnerable to Intrusion Threats

As computing and communication capabilities are embedded within objects and structures, the threat of cyber intrusion escalates. The National Governors Association initiative, *Meet the Threat: States Confront the Cyber Challenge*, started by former Virginia Governor Terry McAuliffe, has led the way on addressing this risk. Among the report's recommendations for Virginia:

- Establish cyber-physical systems as a top priority
- Align the Commonwealth's educational system with cybersecurity workforce needs
- Build partnerships at all levels and in all sectors
- Foster entrepreneurship and innovation to seek solutions



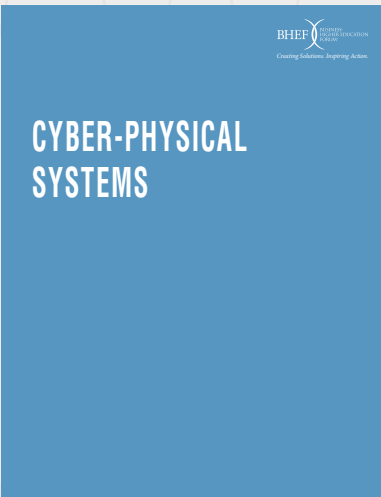


## ***The Quant Crunch: How the Demand for Data Science Skills Is Disrupting the Job Market***

Data Science and Analytics Talent Gap—Mapping the Demand

BHEF and IBM partnered with Burning Glass Technologies to quantify shifts in job market demands. The report defines the data science and analytics landscape, presents research about the skills gap, and adds context to the jobs and skills that are disrupters. Among the report's recommendations:

- Organizations only benefit from data if workers across the value chain possess at least foundational data literacy
- Next generation students must be exposed to data and its relevance and applicability
- Data literacy can be incorporated into post-secondary degree programs
- With continuous learning, employees will be prepared for jobs of the future

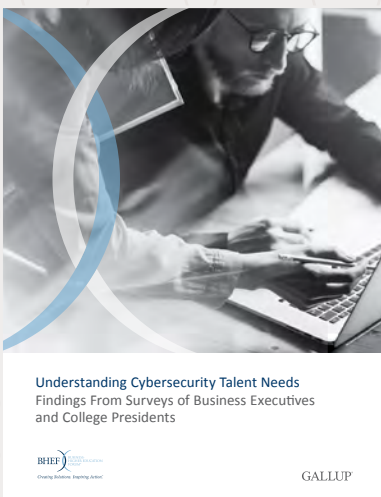


## ***Cyber-Physical Systems Series***

How Corporations are meeting the Cyber-Physical Systems Challenge

Cyber-physical systems link computing and communications with the physical world. The three case studies in this series highlight the risk response of three Virginia-based corporations:

- Northrop Grumman's work on cyber-physical systems and critical infrastructure
- Raytheon's work on cyber-physical systems and autonomy
- Telos Corporation's work on cyber-physical systems and the Internet of Things



## ***Understanding Cybersecurity Talent Needs***

Closing the Cyber Gap by Expanding the Pipeline

Given today's unprecedented cyber risk, closing the cyber talent gap will require expanding business and higher education partnerships and investing in talent development and recruitment strategies. Key perspectives:

- Companies can't find enough cybersecurity talent and welcome new ways to build the pipeline
- More than half of business executives report greater difficulty recruiting for cybersecurity roles than for other positions
- As college presidents anticipate more students seeking cybersecurity skills, many are accelerating development of cybersecurity programs

# UPDATE ON FUNDED WORK

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## NATIONAL SCIENCE FOUNDATION

Community colleges have long provided an affordable gateway for disadvantaged, low-income, and underrepresented students to access four-year baccalaureate STEM programs. America's more than 1,100 community colleges enroll over 6.8 million degree-seeking students—many first-generation college students enrolling immediately upon graduation from high school—and between 50 to 80 percent of all incoming students seek to transfer and earn a bachelor's degree.<sup>1</sup> However, only 7.3 percent of community college students who begin STEM courses complete a STEM baccalaureate degree within six years.<sup>2</sup>

The challenge is to help guide these students to academic and career success in emerging, high-skill fields. With demand accelerating for STEM-proficient graduates, the National Science Foundation (NSF) and BHEF embarked on a five-year effort to improve educational outcomes for diverse students who transfer from community colleges to four-year institutions to pursue an

undergraduate degree in STEM. NSF provided BHEF with a \$4.5 million grant to work with colleges, universities, and businesses to find ways to improve outcomes.

Year three of the project focused on enhancing business and academic partnerships. They are:

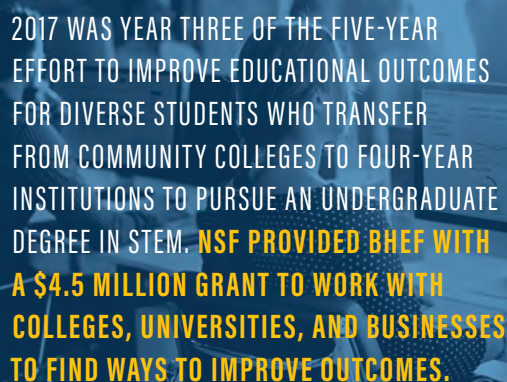
### MIAMI DADE COLLEGE (MDC)

As part of its Technology Research Experience project, MDC's stackable credentials in data analytics, created in partnership with Florida International University, include a certificate, associate's, and bachelor's degree, as well as a one-year master's degree. These credentials serve as a highly diverse and seamless pathway to data analytics skills. MDC strengthened its partnerships with STEM employers through industry-driven research projects, guest speakers, industry mentors, and experiential learning opportunities. A data analytics advisory committee of senior business leaders, representing NextEra Energy, IBM, Accenture, Miami Dade County, and Siemens, also helps ensure program quality and workplace relevance.

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1 <https://nces.ed.gov/pubs2012/2012253.pdf>

2 <https://nces.ed.gov/pubs2014/2014001rev.pdf>



2017 WAS YEAR THREE OF THE FIVE-YEAR EFFORT TO IMPROVE EDUCATIONAL OUTCOMES FOR DIVERSE STUDENTS WHO TRANSFER FROM COMMUNITY COLLEGES TO FOUR-YEAR INSTITUTIONS TO PURSUE AN UNDERGRADUATE DEGREE IN STEM. **NSF PROVIDED BHEF WITH A \$4.5 MILLION GRANT TO WORK WITH COLLEGES, UNIVERSITIES, AND BUSINESSES TO FIND WAYS TO IMPROVE OUTCOMES.**

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#### **NORTHEASTERN UNIVERSITY**

Northeastern's industry-informed curriculum in IT with a focus on cybersecurity provides opportunities for experiential learning and networking with the university's business partners, including Boston Children's Hospital, Brigham and Women's Hospital, IBM, and Raytheon. A STEM seminar, speaker series, and academic advising and career planning conversations help students make informed academic and career decisions. Additionally, Northeastern is expanding its mentoring program with Shearwater International. Northeastern currently collaborates with 14 community college faculty from six community colleges on an experiential learning project, which will provide a scalable and sustainable model for industry engagement.

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#### **UNIVERSITY OF WISCONSIN-MILWAUKEE (UWM)**

UWM's ten-week WATER SYS-STEM summer program on water science helps first-generation, low-income, and underrepresented students transfer to a four-year STEM degree program while gaining academic and business experience. Students are paired with a faculty member and an industry mentor, participate in several real-world research experiences, and engage in seminars, discussions, and on-site visits. UWM recruits students from three local technical colleges and draws from the Water Council's

network of more than 200 water-technology business members to offer paid internships.

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#### **CITY UNIVERSITY OF NEW YORK (CUNY)**

CUNY's Transformational Research and Experiential Learning for Leadership (TRELLIS) project, established in partnership with IBM, supports STEM students transferring from community college to the City College of New York. The TRELLIS program focuses on data science and urban sustainability science and is comprised of a three-week summer bridge program and a senior capstone research project. In fall 2017, CUNY implemented the senior capstone research project under faculty mentorship for the first time. IBM also provides students with professional development workshops and is exploring partnerships with local start-ups and innovation incubators to enhance the capstone experience.

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#### **WASHINGTON UNIVERSITY IN ST. LOUIS (WUSTL)**

The Joint Engineering Leadership Development Program, a partnership between WUSTL, University of Missouri-St. Louis, St. Louis Community College, and Boeing, offers a pathway to ABET-accredited bachelor's degrees in engineering to underrepresented students from disadvantaged locations in the St. Louis region. The program provides internships, capstone projects, mentoring, scholarships, and ethics and leadership development. Participants principally originate from seven regional community colleges. In addition to providing internships, mentors, and adjunct faculty, Boeing made a major financial commitment to the Joint Engineering Leadership Development Program over the next five years, including \$100,000 annually for scholarships.

The NSF grant also enabled BHEF to establish the Undergraduate STEM Interventions with Industry Consortium to address the challenges faced by

diverse students as they pursue undergraduate degrees in STEM. Members include representatives from CUSTEMS (data collection), NORC (evaluation), Miami Dade College, the University of Wisconsin System, Washington University in St. Louis, Northeastern University, City University of New York, NextEra Energy, Boeing, Raytheon, IBM, and The Water Council.

At the bi-annual partners meeting hosted by BHEF on April 4, 2017, members focused on building business partnerships and sharing knowledge with a broader community. On April 5, BHEF and the National Academy of Sciences, Engineering, and Medicine's Board on Higher Education and Workforce co-hosted the Summit on the Intersection of Higher Education and the Workforce: Broadening the Role of Business in STEM Transfer and Persistence. The meeting highlighted the work of the consortium with attendees from business, higher education, and government.

## ALFRED P. SLOAN FOUNDATION

Support from the Alfred P. Sloan Foundation enabled BHEF to establish the New York City Data Science Task Force, comprised of representatives of higher education, government, business, and cultural institutions. The task force works to increase the number and diversity of undergraduate students in the New York

City region who pursue data science and analytics (DSA) education.

The task force analyzed the region's current and future needs for DSA-skilled workers, and, with that information, focuses on enhancing education and real-world experiences for students preparing

for graduate school or careers in data science.

In 2017, the task force contributed to activities and publications that share knowledge about DSA education and workforce development. These efforts offer higher education members information to help align new programs with employer expectations.

## OFFICE OF NAVAL RESEARCH: FUTURE CYBER LEADERS

In order to cultivate and inspire the next generation of regional cyber leaders in the Washington, D.C. Metro Area, the Office of Naval Research, along with Northrop Grumman and Raytheon, provided a group of undergraduates with remarkable enrichment experiences.

During the summer of 2017, 22 participants selected for their academic ability, commitment to the cyber defense mission, and leadership skills attended sessions at the FBI, NSA, Northrop Grumman, and Raytheon. Teams of Cyber Leaders selected topics that included cyber hygiene, insider threat, cyber attacker attribution, mobile apps, and device detection. The teams tackled technical challenges and developed solutions.

## CENTER FOR INNOVATIVE TECHNOLOGY (CIT): SMART CITIES WORKING GROUP

Established by former Virginia Governor Terry McAuliffe in August 2017, the Virginia Smart Communities Working Group developed preliminary recommendations to help cities and communities incorporate information and communications technology to enhance livability and sustainability. Support from BHEF and CIT helped convene public and private sector experts to craft strategies surrounding high-skill workforce needs to enable smart communities to best utilize new technologies.

“We went from having key contacts between State Farm and the Illinois State University to more in-depth relationships between our information security professionals and individual faculty members, which led to a better understanding of what we wanted to achieve together.”

**MARK OAKLEY** / SENIOR VICE PRESIDENT AND CIO  
STATE FARM MUTUAL AUTOMOBILE INSURANCE CO.



BHEF STRATEGIC ENGAGEMENT MODEL SPOTLIGHT:

## STATE FARM AND ILLINOIS STATE UNIVERSITY

STATE FARM AND ILLINOIS STATE UNIVERSITY (ISU) enjoy a longstanding relationship, fostered by their close proximity and nurtured by BHEF. In 2017, the partnership finalized its development of an undergraduate major in cybersecurity at ISU.

Digital information, now the mainstay of business interactions, spawned a commensurate need for cybersecurity. Several analyses indicated the rapid growth of the high-skill cyber job market. Significant findings include:

- **CYBER JOBS GREW MORE THAN 90 PERCENT** in the first half of the decade, a growth rate three times that of all IT jobs, according to research by Burning Glass Technologies.
- **HIRING CYBERSECURITY TALENT IS A TOP PRIORITY** among human resource officers, a BHEF survey found in 2016.
- **THE CYBER TALENT SHORTAGE IS PROBLEMATIC** and getting worse, reports nearly three-quarters of chief information and chief information security officers surveyed by the Financial Services Roundtable in 2017.

As partners in the development of a new major, ISU and State Farm, which hires many ISU graduates, had specific goals: ISU wanted a curriculum that would align with current and future workforce needs of regional and national employers. State Farm sought a process it can replicate in other regions with other colleges and universities. They brought to the table the full support and engagement of State Farm executives and ISU academic leaders. Also critical was significant financial support from State Farm and the State Farm Companies Foundation, which endowed an academic chair, funded program enhancements, and renovated academic space to enhance the learning environment for students.

### ANALYSIS OF CYBERSECURITY/ TECHNICAL JOB MARKET

State Farm commissioned an analysis of the data and cyber skills job market in five regions from August 2014 to July 2015. Of these postings:

**1.7 MILLION**

JOBS WERE POSTED FOR SPECIFIC TECHNICAL ROLES

**1 MILLION+**

JOBS FOCUSED ON DATA SECURITY AND ANALYTICS SKILLS

**340,000**

JOBS SPECIFIED CYBERSECURITY SKILLS

THE JOBS REQUIRED SIGNIFICANT EXPERIENCE AND EDUCATION

DEMAND IS CONCENTRATED IN THE PROFESSIONAL SERVICES AND FINANCIAL SERVICES INDUSTRIES

SALARIES IN THESE JOBS PAY A PREMIUM

HIGH-SKILL JOBS ARE HARD TO FILL



## BHEF STRATEGIC ENGAGEMENT MODEL SPOTLIGHT: STATE FARM AND ILLINOIS STATE UNIVERSITY

ISU faculty members contributed to the development of the curriculum while State Farm employees provided technical, product, and workforce expertise. Guiding the partnership was BHEF's time-tested Strategic Partnership Implementation Process. The process steps include:

### Analyze Job Market Landscape and Skills

- State Farm commissioned an analysis of the skills and educational experience of cybersecurity professionals in the Bloomington region, as well as other high-skills roles in seven regional markets. Understanding regional differences helped ensure that the program would be broad enough for graduates seeking employment with other companies.

### Map Skills and Competencies to the Curriculum and Select Academic Credentials

- ISU administrators and faculty from the School of Information Technology examined current course offerings and degree programs and surveyed recent graduates, determining that a cybersecurity major was the appropriate degree program.
- With input from State Farm employees, ISU faculty

aligned skills and competencies with existing courses developed for its information security major (designated a National Center of Academic Excellence in Cyber Defense Education) along with new cybersecurity courses.

- The curriculum allows community college students currently majoring in information technology majors to transfer into the cybersecurity major and thus graduate in one or two years.

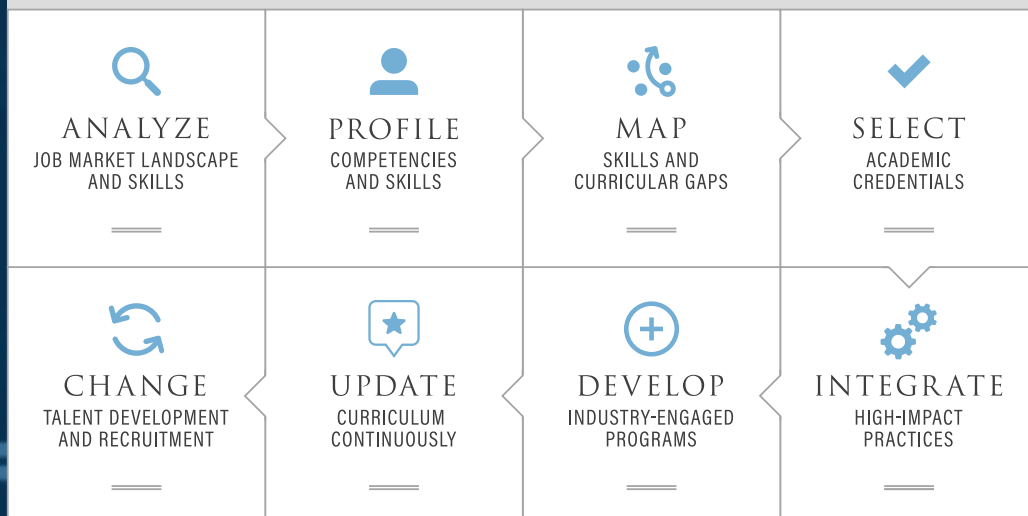
### Change Talent Development and Recruitment

- State Farm revised its talent development and recruitment efforts, updated job-description terminology, and addressed needs of transfer students by delaying recruitment for internships, mentoring, and hiring until later in the year.

### Integrate Industry-Led Engagement and High-Impact Practices into the Cybersecurity Major

- State Farm brought additional resources to ISU's cyber education experience that proved vital to its success. ISU faculty worked closely with State Farm personnel to identify opportunities for employees to engage with cybersecurity students.

## BHEF STRATEGIC ENGAGEMENT MODEL PARTNERSHIP IMPLEMENTATION PROCESS



BHEF utilizes a rigorous strategic engagement model to help academic and business partners create and support education programs that produce a diverse pool of high-skill, workforce-ready graduates.

# LOOKING AHEAD

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FOR THE PAST SEVERAL YEARS, BHEF developed workforce partnerships focused on specific, high-demand skills: cybersecurity, data science and analytics, and artificial intelligence, among others. In 2018, BHEF will pivot to explore foundational digital skills—those skills that will grow and strengthen the digital workforce of the future.

While working in the fields cybersecurity, data science and analytics, and artificial intelligence, BHEF saw that employers sought graduates with a broad understanding of digital skills. Moreover, no matter the field, those in-demand skills were often the same. As a result, BHEF's work across multiple disciplines led to one conclusion: **digital-skill clusters that create broadly enabled professionals offer more applicability to a variety of jobs than expert-level skills in any one digital skill set.**

With this understanding, BHEF will continue to develop business-higher education partnerships that create enabled professionals ready for the digital economy.

“The real story here is the demand for analytics skills in most, even all, domains and occupations.”

MIKE FENLON / CHIEF PEOPLE OFFICER / PWC



MIKE FENLON



PETER WEINBERG, BRIAN FITZGERALD

# INSIGHTS FROM MEMBERS

BHEF's semi-annual meetings provide a forum for business and academic members to hear from talent development experts, share wisdom and insights from member-led projects, and connect. Some observations:

- **CEOs SEEK GRADUATES WITH DEEP TECHNOLOGY KNOWLEDGE** along with T-shaped skills: critical thinking and problem-solving.
- **BUSINESS AND HIGHER EDUCATION SHOULD INNOVATE EDUCATIONAL OPPORTUNITIES** for two types of learners: undergraduates, who need experiential learning, and non-traditional and life-long learners, many already employed.
- **NEW OPPORTUNITIES—SCHOLARSHIPS, INTERNSHIPS, AND MENTORS**—position diverse and low-income students for success.



TERRY MCAULIFFE



DANIEL GREENSTEIN AND THOMAS GEORGE

“It all comes down to partnerships between business and higher education.”

TERRY MCAULIFFE / FORMER GOVERNOR / COMMONWEALTH OF VIRGINIA



BARBARA SNYDER

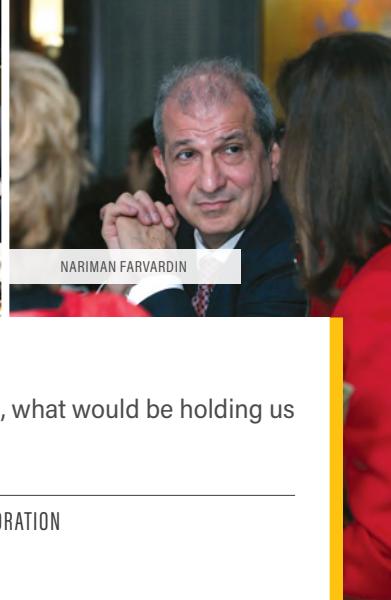




MARION BLAKEY



DENISE PEPPARD, MIKE FENLON



NARIMAN FARVARDIN

“If we can fix taxes, fix regulation, and have the right infrastructure, what would be holding us back? The answer is workforce.”

WES BUSH / CHAIRMAN AND CHIEF EXECUTIVE OFFICER / NORTHROP GRUMMAN CORPORATION



TIM SANDS, TERRY SULLIVAN



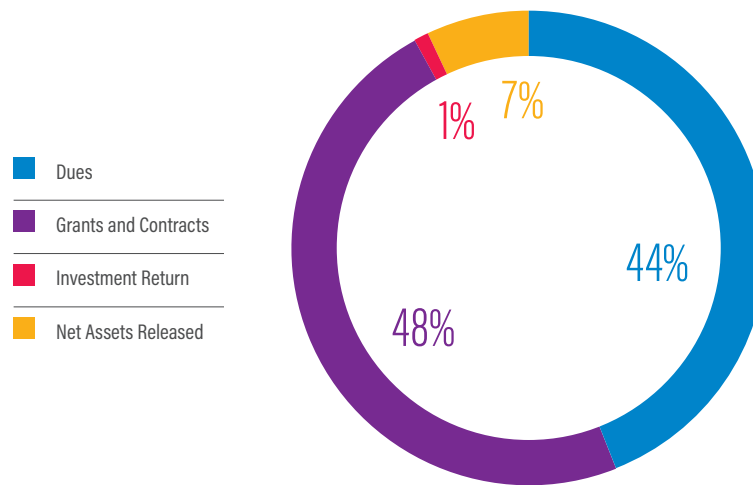
BOB CARET, RYAN OAKES, JACK DEGIOIA



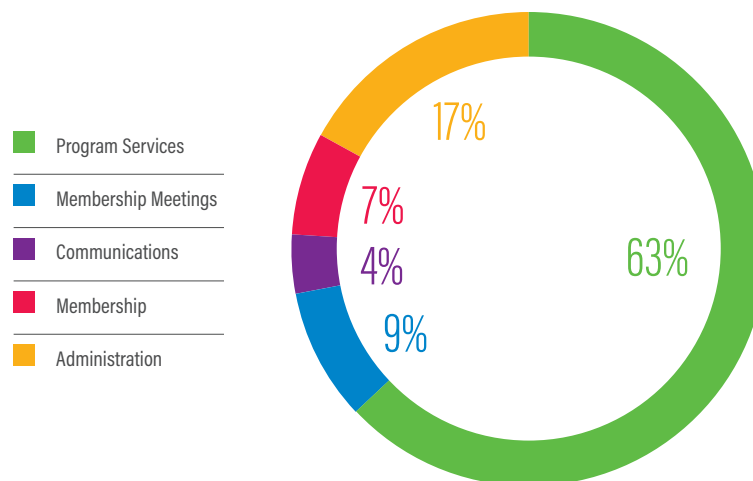
WAYNE A.I. FREDERICK, WES BUSH

## FINANCIALS

### REVENUE



### EXPENSES





**BHEF reflects our members' passionate commitment to the success of our nation's workforce and the undergraduates poised to become our next generation of innovators.**

Each member brings a credo of excellence that drives our work.

**BHEF leadership is a true partnership between business and higher education,** and our chairs personify the deep respect and admiration between the two sectors. We are deeply grateful to Peter A. Weinberg, founding partner, Perella Weinberg Partners, and Teresa A. Sullivan, president, University of Virginia, for their wise counsel, heartfelt sincerity, and good humor throughout the past year. We are also grateful to our rising chair, Ryan Oakes, managing director, Accenture, for his expertise and enduring support. Lastly, BHEF thanks our board of directors for their personal commitments, which ensure that the National Higher Education and Workforce Initiative continues to break ground and forge successful pathways for undergraduates into the known and yet-to-be-known fields that will define innovation and the 21st-century experience.

## BHEF MEMBERSHIP

### **Mark Allin**

President and CEO  
John Wiley & Sons

### **Joseph E. Aoun**

President  
Northeastern University

### **Jeffrey D. Armstrong**

President  
California Polytechnic State University

### **Marion C. Blakey**

President and Chief Executive Officer  
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### **Lee C. Bollinger**

President  
Columbia University

### **Molly Corbett Broad**

President  
American Council on Education

### **Wes Bush**

Chairman and Chief Executive Officer  
Northrop Grumman Corporation

### **Teresa Carlson**

Vice President  
Worldwide Public Sector  
Amazon Web Services

### **Leanne Caret**

Executive Vice President  
The Boeing Company  
President and Chief Executive Officer  
Defense, Space & Security

### **Robert L. Caret**

Chancellor  
University System of Maryland

### **Jimmy G. Cheek**

Chancellor  
University of Tennessee, Knoxville

### **James P. Clements**

President  
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### **Mary Sue Coleman**

President  
Association of American Universities

### **Raymond W. Cross**

President  
University of Wisconsin System

### **John J. DeGioia**

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### **Lynne Doughtie**

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### **Michael V. Drake**

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Stevens Institute of Technology

### **Anthony A. Frank**

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### **Wayne A.I. Frederick**

President  
Howard University

### **E. Gordon Gee**

President  
West Virginia University

### **Peter T. Grauer**

Chairman  
Bloomberg LP

### **RADM David J. Hahn**

Chief of Naval Research  
Office of Naval Research

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1986–1988

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1988–1990

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1990–1992

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1994–1996

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1996–1998

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**L. Dennis Smith**

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2006–2008

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2008–2010

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**William E. "Brit" Kirwan**

Chancellor, University System of Maryland

2012–2013

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