



2017–18
Annual Report

NC STATE Industry Expansion Solutions

ies.ncsu.edu





IES Mission

We engineer success for North Carolina business one solution at a time by understanding our partners, building long term relationships, crafting meaningful, sustainable solutions and inspiring continuous learning.

Our Vision

To make North Carolina #1 in every market IES serves.

Our Values

Integrity

Do the right thing—always!

Innovative Solutions

We foster creative talent to deliver high impact solutions to drive success.

Customer First

We uphold a culture of exceptional service.

Pursuit of Excellence

We partner to achieve measurable economic impacts for North Carolina and beyond.

Executive Summary

The 2017-2018 period was one of accelerated transition and growth for NC State's Industry Expansion Solutions (IES). A permanent assignment for the Executive Director was made and leadership team adjustments were put in place in order to strengthen support for strategic development. With a refocus on our core competencies and a permanent shift away from activities that are better served in other units of the university, IES is now better positioned for the extension mission commitment recognized statewide since 1955.

Building on our recognition as an applied technology unit of the College of Engineering, IES has taken on next generation challenges this year for engaging the state's manufacturers with awareness and assessment related to market needs such as cybersecurity and digital supply chain readiness. We also strengthened our understanding and support of defense contractors across the state through direct engagement and diversification projects. We made new commitments to help businesses understand their market positions through assessments and continued to adjust our long term expertise in ways that fit the changing technological environment. We established more formal customer service processes and feedback management systems.

IES has recommitted to being leaders in continuous improvement services, professional development and independent project evaluation. We learned that market leadership requires constantly rethinking our engagement methods and program solutions. We continued to monitor and improve with a focus on four primary goals from the IES strategic plan:

Staff and Organizational Development

Systems and Processes

Financial Systems

Customers and Stakeholders

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GOAL 1 Staff & Organizational Development

In 2017–18, IES realigned our focus to support the development and engagement of our employees through:

1. Developed and stabilized organizational structure—enhanced awareness of and support for the IES mission and values, provided opportunities for staff input, innovation and shared decision making.
2. Advanced a culture of employee engagement and community: improved communication, generated opportunities for collaboration and greater awareness of progress towards shared goals.
3. Improved internal IES communication and IES staff development.

We invested strategically in resources to support a culture of **leadership, learning, communication and collaboration**:

- › Met regularly to foster employee development and engagement, with initiatives like community service activities and staff training and development advocacy and promoting revised IES values
- › Delivered weekly “In the Loop” emails designed to streamline internal communications and ensure everyone has access to critical information, as well as news of recent successes. Regularly posted this content to the IES staff portal to ensure there was a second vehicle for accessing important news and announcements
- › Enhanced monthly Executive Director’s messages that created a direct communications conduit between the new Executive Director and the staff



- › Rolled out “Mini Masters” videos to enhance professional development. These were designed to showcase the unique knowledge within IES, strengthen internal culture and spread awareness of upcoming courses and events
- › Participated in two Build-A-Block sessions, the collaboration between the Habitat Campus Chapter at NC State, students, faculty, staff, corporate partners and Habitat Wake
- › Developed new employee on-boarding materials and posted in central repository on IES staff portal

Over the next twelve months, we aim to cast our net further and engage even more stakeholders with news about our work. We intend for our efforts to lead to new ideas for collaboration. We will continue to encourage employees to develop Individual Development Plans that enable—and inspire—they to access training that will be of the most benefit to them and to our organization.

2017–18 IES External Advisory Board

Chris Trevey, CEO/President, Carlton Scale, Chair of IES Advisory Board

Doug Adams, CEO/President, Aweve, LLC

David Catt, Plant Manager, Keihin Carolina System Technology

John Chaffee, President & CEO, North Carolina’s Eastern Region

Larry Hall, Secretary, North Carolina Department of Military & Veteran Affairs

Michele Holbrook, Plant Manager, Corning Optical Communications

Martin Kegel, Fabrications Operations Manager, Caterpillar

Michael Marlowe, Managing Director Emeritus, Automation Federation

Byron Murphy, Controller, Package Craft

Jerry Pedley, President, Mertek Solutions, Inc.

IES Services & Solutions



Standards & Regulatory Services

We offer a multitude of solutions that prepare organizations to consistently focus on improving their operations and meeting their customer requirements. We coach our customers to implement processes to ensure their objectives are achieved and to provide exceptional value to their customers. This is accomplished through ISO-based services, Performance Excellence Coaching and Industrial Engineering solutions.

Environmental Health & Safety

Our full line-up of environmental, health, and safety services includes training, customized solutions and certificate programs designed to support environmental stewardship, worker safety, and compliance with federal, state and local health, safety and environmental

standards and regulations. This year we introduced a new technical assistance service for ISO 45001 Occupational Safety and Health Management systems, an Excavation and Trenching training solution and Respiratory Protection training for employers and workers.

Process Optimization

We offer a suite of Lean and Six Sigma continuous improvement solutions, tailored to your specific organization, that help improve performance and reduce variation. Our hands-on training, coaching and mentoring can guide your team through the journey.

Lean is a practice that improves processes by reducing waste through harnessing the drive of the total organization. When rigorously applied, it can have positive impacts on cost, quality and delivery of services.



IES's Industries Served:

- › Education & Research
- › Energy
- › Healthcare
- › Manufacturing
- › Military
- › Public Sector

We also craft solutions to meet specific needs. If you have a challenge, we can develop a solution.

We also offer Six Sigma solutions (DMAIC) that utilize statistically driven methodology for reducing variation and eliminating defects in both products and processes.

Evaluation Services & Resource Development

IES designs and delivers a comprehensive approach to evaluation, ensuring high-quality, rigor and customer-focus for all of our projects in North Carolina and beyond. Our resource development services include comprehensive program evaluation, organization agility assessments and research and evaluation capacity building. We also offer scouting and reviewing potential grant opportunities, developing proposal concepts, facilitating the proposal

development process and playing as active a role as desired in writing the proposal. All of these services leverage our evaluation expertise in order to ensure that proposals contain a rigorous evaluation component that is most attractive to funding sources.

Open Enrollment & Professional Learning

We offer a broad range of strategic development, training and learning solutions for a wide variety of organizations. This year, we introduced a new online toolkit to assist employers with conforming to an important Cybersecurity standard. We also developed new educational materials to understand the learning preferences of youth workers under the age of 25.

I Affiliate Programs





NCMEP

The North Carolina Manufacturing Extension Partnership (NCMEP) is the official representative of the MEP National Network™ and NIST MEP in North Carolina. The MEP National Network™ is a unique public-private partnership that delivers comprehensive, proven solutions to U.S. manufacturers, fueling growth and advancing U.S. manufacturing. NCMEP is a proven resource as a public-private operating alliance of state supported programs, working together to help manufacturing companies become operationally efficient and well positioned to grow profitably.

Industry Expansion Solutions serves as the administrator for NCMEP and is joined by partners from the North Carolina Community College System, NCWorks Customized Training; the Economic Development Partnership of NC; the Polymers Center of Excellence; the Manufacturing Solutions Center and North Carolina A&T State University.



NCMEP offers multiple networking opportunities through programs like Manufactured in North Carolina (MNC), the premiere searchable supply chain directory for North Carolina manufacturers, and the membership-based mfgNC CONNECTIONS. In 2017, IES partnered with Business North Carolina to host the third mfgCON Conference, delivering two days of keynotes, presentations and breakout sessions and attracting more than 400 attendees in Winston Salem, North Carolina.

Minerals Research Laboratory

The Minerals Research Laboratory (MRL) is a world leader in research, development, and implementation of mineral processing techniques. The MRL is part of the North Carolina State University College of Engineering, under the management of the NC State Industry Expansion Solutions (IES). The MRL serves state, regional and international customers.

NCAfE Program

IES serves as the administrator for the North Carolina Awards for Excellence (NCAfE) program, the top state level recognition presented to an organization that has demonstrated, through its practices and achievements, the highest level of performance excellence by applying the principles of the Baldrige Excellence Framework—the Criteria for Performance Excellence.

Southeastern OSHA Training Institute Education Center

Industry Expansion Solutions serves as the lead organization of the Southeastern OSHA Training Institute Education Center in partnership and the University of Tennessee Center for Industrial Services. Since 2008, we have partnered to offer OSHA training throughout the states in Region IV. We are an OSHA-authorized provider of trainer courses, standards and technical courses as well as two safety certificate programs. We provide the US Department of Labor OSHA Outreach Training Train-the-Trainer Program, OSHA's primary means of training employees in the basics of occupational safety and health. Courses are available for construction, general industry, food and beverage manufacturing and disaster site safety. Our organization has authorized more than 2,400 OSHA Outreach Trainers, who subsequently teach more than 24,000 workers each year.

At IES, we recognize the value of a strong team and have recruited renowned organizations into our statewide mission to make North Carolina number one in every market we serve.







GOAL 2

Business Systems & Process Improvement

We continue to look for ways to strengthen our internal business systems and processes, auditing activities to create a more efficient infrastructure. By focusing on internal improvement, IES can better serve both our internal and external customers with greater depth and veracity. The end goal of our efforts will be greater client and stakeholder satisfaction.

In 2017–18, IES:

- › Broadened the services of our customer care team
- › Redirected our engagement focus from strictly revenue generation to becoming our clients' "trusted advisor" with service and support
- › Developed new internal performance metrics to strengthen our focus on efficiency and effectiveness at serving client needs
- › Continued to strengthen our expertise and functionality around our Customer Relationship Management (CRM) tool Salesforce making it the centerpiece of our data support and information including housing and managing our 3rd party vendor contracts

Our plans are to continue refining our processes, working towards world class client engagement, adding velocity through our sales cycle, while nurturing our client requests and needs.



GOAL 3

Financial Systems

The finances of an organization such as ours can be complicated; our sales-generated revenue is supplemented by state appropriations as well as federal grants and contracts.

In 2017–18, IES:

- › Upgraded our financial system to Peoplesoft version 9.2
- › Highlighted the relationship between our client resource management system “Salesforce” and accounting for revenues and expenses for projects
- › Utilized enhanced data analytics to monitor financial performance in Salesforce
- › Adopted NC State’s REPORTER system as our professional learning financial management system
- › Collaborated with business unit directors to ensure accuracy of effort, and expenses for all funding streams

GOAL 4

Customers & Stakeholders

At the heart of it all is you—our customers and stakeholders. Every day we come to work with a single question in mind: how can we better serve you and the multiple industries across the the state of North Carolina.

In 2017–18, IES:

- › Created an internal resource to work more closely with colleagues at the College of Engineering to better execute the mission of the university
- › Created a Client Engagement Team, applying best practices around client interactions
- › Delivered 350 industry fee-for- service projects, utilizing 30 IES Extension Specialists and Regional Managers
- › Delivered 104 open enrollment courses, and workshops for a total of 33,933 contract hours, serving 1,553 students
- › Offered eight online courses serving 56 virtual students

In all, IES recognized approximately **\$2.4M** in fees for services and **\$998,347** in open enrollment and professional learning state appropriated receipts.

Sales Performance

Product Area	
Management Systems and Quality:	\$1,008,012
Business Growth and Innovation:	\$232,491
Open Enrollment and Online Courses:	\$998,347
Environmental Health and Safety:	\$376,388
Process Optimization-Manufacturing and Related for Profit:	\$213,688
Process Optimization-Health Care, Government, NonProfit:	\$299,115
Evaluation Services and Resource Development:	\$71,101
Minerals Research Lab:	\$153,037

Federal Grants and Contracts

IES was also awarded the following federal grants and contracts during the 2017-2018 calendar year, including:

Government Entity	Year Awarded	Award Amount	Award Type	Project Duration
MEP/NIIMBL Collaborative Pilot Project				
National Institute of Standards & Technology	2017	\$231,000	Subaward	2 yr
NIST MEP Network Digital Supply Chain Project				
National Institute of Standards & Technology	2017	\$999,933	Cooperative Agreement	3 yr
Susan B. Harwood Training Grant, Fall Prevention for Youth Workers				
Occupational Safety & Health Administration	2017	\$150,000	Grant	1 yr
Manufacturing Extension Partnership Center for the State of North Carolina				
National Institute of Standards & Technology	2017	\$3,036,183	Cooperative Agreement	1 yr

GOAL 4 CONT.

Total Impact for Manufacturing

In the last 12 months, clients of IES or IES' NCMEP affiliates in **67** North Carolina counties returned surveys to NIST's third-party survey company, reporting results they attributed to work done by NCMEP affiliates. Manufacturers reported more than **\$433 million** in economic impact from NCMEP activities and the creation of and/or retaining of **3745** jobs.

We continued to diligently collect data about our clients' needs and restructured the use of our resources so we could develop solutions to meet those needs more efficiently and effectively.

Here are some of the accomplished highlights:

- › Hosted a successful 2017 mfgCON manufacturing conference with new partner Business North Carolina. Highlights included a 17 percent growth in attendance and remarks by Governor Roy Cooper
- › Organized four mfgNC Connections customer events and held one Lean Council event
- › Dispatched ambassadors to events across the state in honor of National Manufacturing Day
- › Strengthened our Healthcare and Government solutions portfolios
- › Piloted a Lean for Human Resources program
- › Updated the North Carolina Awards for Excellence (NCAfE) program
- › Became a contributing partner to two additional Manufacturing USA Institutes to enable NC manufacturers access to cutting edge technology: Clean Energy Smart Manufacturing Innovation Institute (CESMII) and National Institute for Innovation in Manufacturing Biopharmaceuticals (NIIMBL)
- › Made our professional learning solutions more accessible with the introduction of webinars and online workshops



\$2.8B Total Impact for Manufacturing in NC (2012–2017)



13,563 jobs retained



6772 jobs created



\$584M retained sales



\$321M increased sales



\$288M cost savings



\$1.6B investments

- › Enhanced awareness of Baldrige Examiner classes
- › Launched a new course evaluation process in our CRM (Salesforce) that includes a new customer case model to elevate customer feedback into an action team for resolving opportunities for improvement.
- › Advanced video production capabilities, delivering multiple product and customer reference videos
- › Delivered 92,658 campaign/promotion emails with an average 23.15% open rate + 13.02% click rate
- › Attracted 8,000 users to the IES website per month; 10,000 sessions per month and 20,000 page views per month. IES Twitter: Approximately 399 tweets over the past 12 months (number of tweets sent), 145,400 impressions (tweets that generate interaction or replies)
- › Manufactured in North Carolina (MNC), our online supply chain database, attracted 124,000 visitors, 435,000 pageviews and 2220 inquiries to companies
- › Enhanced the membership-based mfgNC CONNECTIONS program
- › Improved Search Engine Optimization (SEO), resulting in 171,421 page views via organic traffic, an increase of more than 98 percent over the previous year

- › Participated on the advisory board for planning the 2018 IndustryWeek Manufacturing & Technology Conference held in Raleigh
- › Hosted several NC legislators at plant tours across the state to highlight the importance of manufacturing
- › Improved our understanding of the DoD supply chain in North Carolina and its impact to the state

But even with our long list of accomplishments, we're not done! In the coming 2018-2019 year, we'll continue to explore alternate avenues of communication with our clients, including virtual contact and informal learning groups. We'll pursue grant opportunities that align with College of Engineering and North Carolina Manufacturing Extension Partnership priorities.

And, as always, we'll listen and learn from you, to discover how we can best work together to make North Carolina industry strong and prosperous.

NC STATE

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