

# Building Relationships Between Academics and Industry

2019 Engineering Technology Leaders Institute (ETLI)

October 2019

***CALCULATE***

***COLLABORATE***

***CREATE***

# About TRC

Groundbreaker. Game changer. Pioneer. Since the 1960s TRC has set the bar for clients who require more than just engineering, combining science with the latest technology to devise innovative solutions that stand the test of time.

Today we are a global consulting firm for the oil and gas, power, environmental and infrastructure markets. TRC's 5,000 professionals work with a broad range of commercial, industrial and government clients and the communities they serve. We deliver breakthrough solutions that address local needs – so our clients can better succeed in an ever-changing world.

# Markets We Serve



Power & Utilities



Oil, Gas & Industrial



Transportation



Real Estate

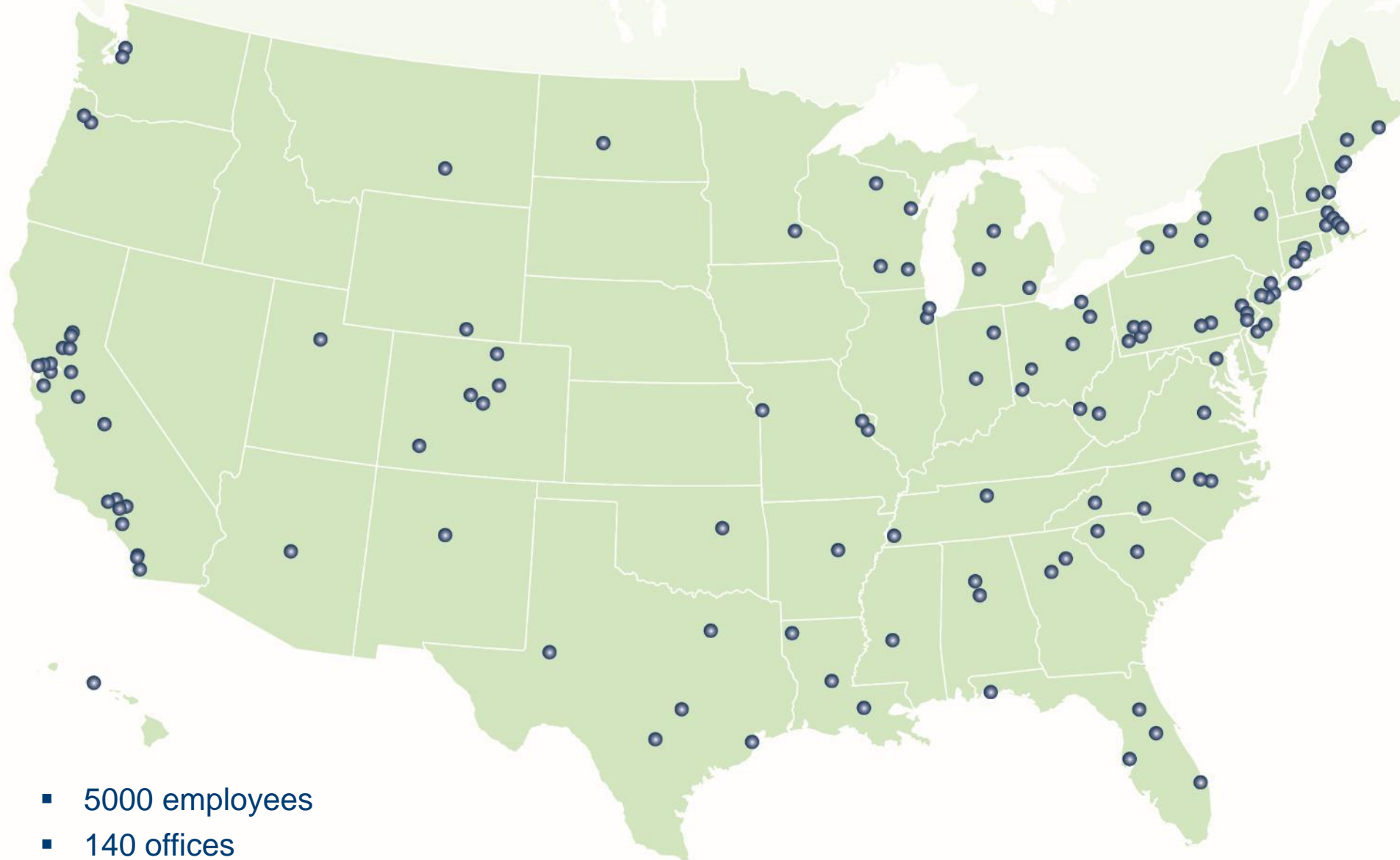


Water



Government

# TRC Offices



- 5000 employees
- 140 offices

# University and Industry

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## University and TRC

- TRC has been working with University of Maine EET program for 20+ years
- Now working with several other programs at University of Maine
- Now working with several universities around the country

# University and Industry

## University career fairs

- Students have the opportunity to introduce themselves to employers and some attend interviews
- Employers have the opportunity to introduce their company to students and faculty
- Faculty and employers have the opportunity to communicate and collaborate

## Industrial advisory committee (IAC)

- Employer feedback
- Faculty feedback
- Employer interviews with student representatives, student feedback
- Again, faculty and employers have the opportunity to communicate and collaborate about what works best

## Employer invitation to university activities

- Award receptions
- On campus employer presentations
- Employer involvement in class and/or labs

# University and Industry

## IEEE Student Branch

- The University of Maine IEEE Student Branch is a student run organization dedicated to serving the electrical engineering and technology community of The University of Maine.
  - Promote the UMaine engineering spirit
  - Motivate future engineers and technologists
  - Provide a link to the worldwide IEEE community
  - Enhance and develop members' careers
- The University of Maine IEEE Power and Energy Society (PES) is part of the IEEE Student Branch. The group is made up of branch members pursuing a career in power engineering.
  - Provide opportunities for networking between students and professionals
  - Host industry presentations, present insight to the latest technologies and practices of the power industry
  - Plan site visits around the State of Maine that pertain to power and energy
  - Foster mentorship to support academic and professional development in power engineering

## Employer support

- Scholarships
- Donate hardware/material and/or money for these items
- Employer facility tours
- Internship opportunities

# TRC Internship Program

Internships have been active at TRC for over 20 years

Historically the interns are hired into a particular office or department and help support that local team with various tasks throughout the internship

- Good experience, but can limit the exposure to many other aspects of the company and the number of career opportunities at TRC



## Revised internship structure

- Multidiscipline approach to provide a diversified experience and better understand how the different departments work together.
- Good mix of lecture training, hands on training, field visits and project work.
- Designed around a 12 week schedule to fit summer break.
  - Includes time up front for introductions and onboarding with our Admin, HR, IT and management teams.
  - Includes TRC safety and quality program training.
  - Focuses on different software training, along with an introduction to our project management, proposal and project execution processes.
  - By the third week, the training begins a more in-depth focus on our engineering specialties.
    - Substation Physical/Structural Engineering
    - Protection & Control Engineering
    - System Protection Engineering
    - Automation & Integration Engineering
    - Testing & Commissioning

## Revised internship structure

- Several mentors are assigned to assist the interns in their day-to-day work.
- Exposure to a realistic project sequence, completing a mock project throughout the internship.
- The interns visit the TRC testing and commissioning training lab in Lancaster, PA to perform hands-on testing and commissioning training.
- To conclude the program, the interns make a final presentation to the management team, providing an overview of what they learned and experienced over the summer as well as providing feedback to help make the program better for the future years. Faculty from the participating universities are also invited to the final presentation.

# TRC Internship Program

## Student Goals

- Have Fun!
- Learn
- Gain experience and new skills
- Understand TRC departmental overlap and interactions
- Build professional relationships and connections
- Support all departments with ongoing project work

## TRC Goals

- Meaningful and consistent intern experience
- Invest early in employee training and development
- Drive a culture of quality and excellence
- Provide opportunities for interns to gain OJT
- Promote TRC Brand awareness
- Evaluate intern performance for potential TRC post-grad hire

# TRC Internship Program



## Schedule

- WEEK 1 – ONBOARDING AND INTRODUCTION
- WEEK 2 – CADD, PROJECTWISE & PROJECT MANAGEMENT (PM) & Project Support Time
- WEEKS 3 & 4 – SUBSTATION (S/S) & Project Support Time
- WEEKS 5 & 6 – PROTECTION AND CONTROLS (P&C) & Project Support Time
- WEEKS 7 & 8 – SYSTEM PROTECTION (SP) AND AUTOMATION & INTEGRATION (A&I) & Project Support Time
- WEEK 9 – TESTING AND COMMISSIONING (T&C)
- WEEK 10 – FLOAT WEEK, CATCH UP & Project Support Time
- WEEK 11 – OVERVIEW OF OTHER GROUPS & Project Support Time
- WEEK 12 – FINAL PRESENTATION & Project Support Time

# TRC Internship Program



## TRC Intern Program Summer 2017

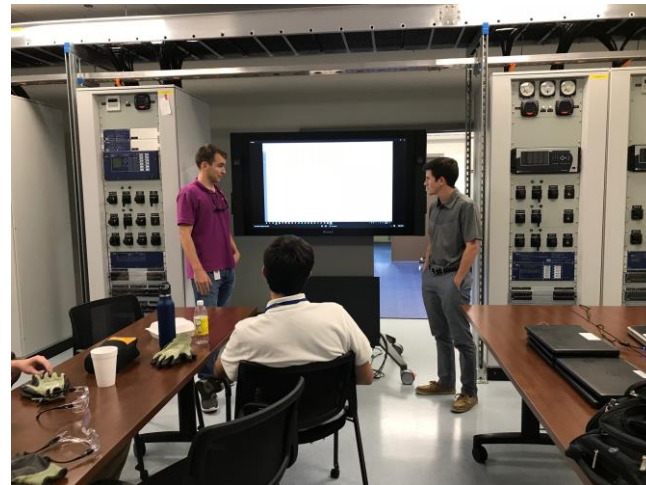




# TRC Internship Program



## TRC Intern Program Summer 2018





# TRC Internship Program



## TRC Intern Program Summer 2019



# TRC Internship Program



## TRC Intern Program Feedback

“I learned about how TRC works as a team, and the process as a whole when it comes to projects”

“The program itself was structured very well, starting with substation and ending with Automation and Integration as well as Testing and Commissioning”

“I had an overall great experience here at TRC. I learned a lot of things that can’t be taught in a classroom and can only be learned through experience. I thought the leadership and guidance from the multiple mentors we had was great and allowed us to gain a valuable understanding of the consultant engineering world”

“I think the program had an appropriate mix of structured time where we were under direct supervision from a mentor and free time where we were left to manage our time how we saw fit”

“Overall, I felt that it was valuable to get a brief overview of every department. This helped me understand more about protection and other topics that I never knew existed”

“The field trips were very enjoyable and put everything into perspective”

“I made many professional contacts with engineers in the real world, which has drastically aided in my own growth professionally”

“I believe the program is a great way to give the full rundown on everything TRC does and provides good insight on what there is to offer to upcoming graduates”



***Thank You***

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