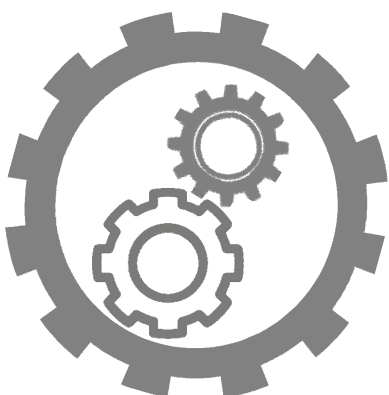
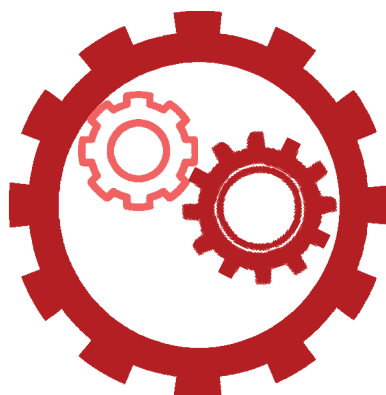




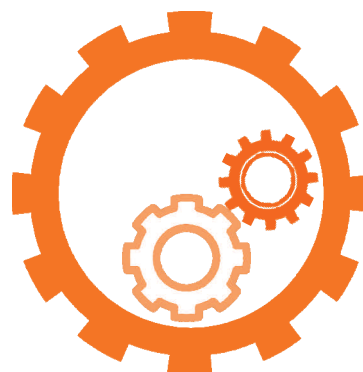
# 2017 Project Highlights



## Organizational



## Curriculum



## Professional Development



## Outreach

Vision - Mission - Guiding Principles	Educator Resources	ET Forum	Best Practices Guides
Center Overview	ET Education	Florida Energy Systems Consortium	Career / Technical Organizations
Partnerships	ET Students & Alumni	Soft Skills Activity	Robotics Camps
Impact	Credentials-Credit	Professional Development	Recruiting Girls
Successfully Completed	International Programs		FLATE Awards
Baldrige/Sterling Evaluation			Communications
NSF ATE Joint Exhibits			Websites
			Product Display
			Manufacturing Day
			National MFG Day



# Vision - Mission - Guiding Principles

Organizational

Outreach

Curriculum

Professional Development



## Vision

FLATE will be Florida's leading resource for education and training expertise, leadership, projects, and services to promote and support the workforce in the high performance production and manufacturing community.

## Mission

FLATE, an NSF-ATE Regional Center for Advanced Technological Education, is the go-to organization for manufacturing and advanced technical education, best practices and resources supporting the high performance skilled workforce for Florida's manufacturing sectors.

## Guiding Principles

*Does this:*

- meet FLATE's ethical expectations?
- build upon and require strong teamwork to accomplish?
- enhance our ability to build bridges among academia and industry partners and stakeholders?
- ensure that the role of community colleges is valued and respected?
- increase FLATE's leadership in technical education in the State of Florida?
- support our drive toward continuous improvement and augment our ability to be innovative in developing services and products for industry and education stakeholders?
- augment our aptitude for providing resources, opportunities, and access for student success?



This activity supports FLATE's vision to be a self sustaining and quality organization.

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# FLATE Center Overview



Organizational

Outreach

Curriculum

Professional Development



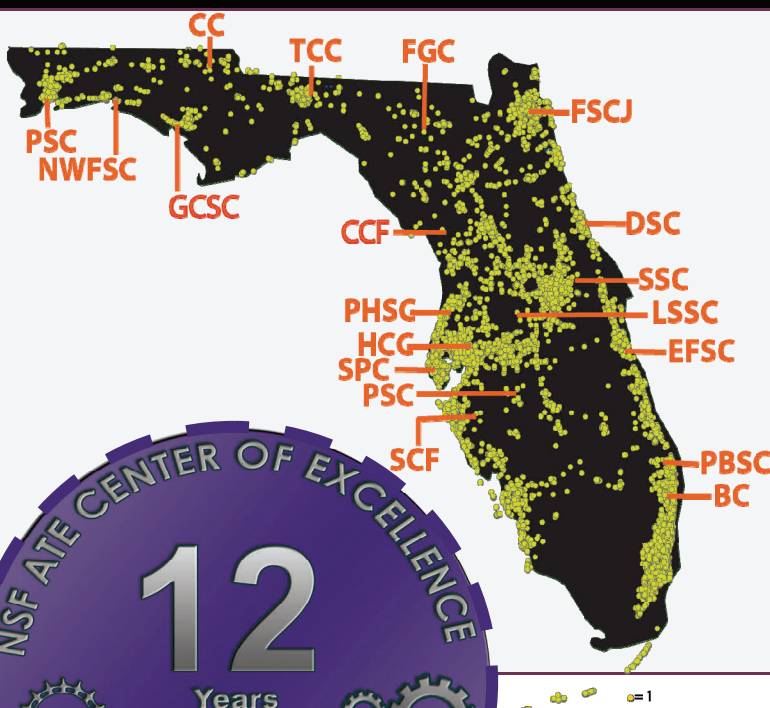
**FLATE** was envisioned in 2002 under a National Science Foundation Advanced Technological Education (NSF-ATE) planning grant. The Center is one of 40 ATE Centers of Excellence in the United States focused on improving science, technology, engineering and math education supporting the technician workforce needs of American advanced and emerging technology industries. FLATE's work is industry driven and focused in 3 work streams: outreach and recruitment, professional development for educators, and curriculum development and reform.



**ATECENTERS**

## FLATE's College Partners Serve Florida's Industries

Each dot=10 manufacturing companies



**HCC SPC**

St. Petersburg College

**USF**  
UNIVERSITY OF  
SOUTH FLORIDA  
COLLEGE OF ENGINEERING

## Impact Locally. Lead Nationally.

Developed Florida's Engineering Technology Degree

Coordinates the largest statewide MFG DAY student tour program in the nation

Mentor for A.S. manufacturing programs across the US

Home of the "Made in Florida" outreach campaign

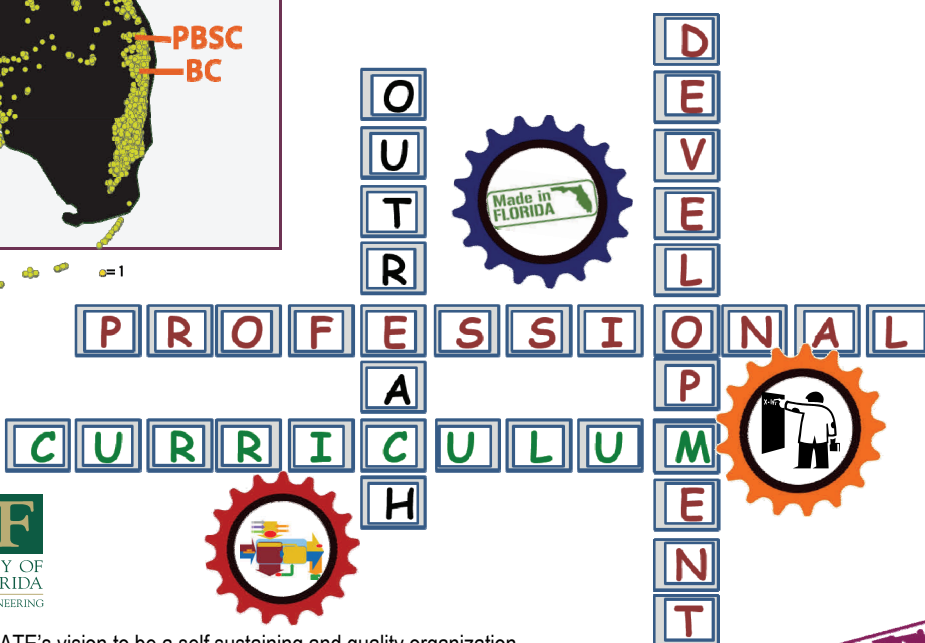
Provides industry-driven professional development

Author of award winning national publications

National leader for manufacturing education

Coordinated leadership team from HCC, USF and SPC

## Advancing Excellence in Engineering & Manufacturing Technology Education



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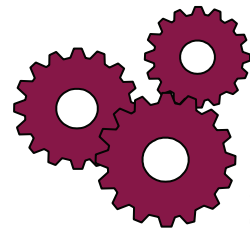
# Industry Partnerships

Organizational

Outreach

Curriculum

Professional Development



**Industry Partners** and their participation in FLATE's activities and projects is crucial for our success. FLATE's Industry partnerships manifest themselves in many ways. FLATE has a Florida-based Industry Advisory Committee (IAC). As an NSF ATE Center of Excellence, FLATE also has a National Visiting Committee (NVC) comprised of executive officers of manufacturing companies, state agency and education professionals. Additionally, FLATE has many partnerships with individual companies as well as statewide and regional professional industry organizations for curriculum, outreach and professional development activities and events.



FloridaMakes

FLORIDA ADVANCED  
TECHNOLOGICAL EDUCATION  
CENTER OF EXCELLENCE



FLATE Industry Group	Activities
<b>National Visiting Committee meets annually at a Florida manufacturer</b>	Our NVC assesses, advocates, and advises the FLATE team and reports annually directly to NSF.
<b>Industry Advisory Committee meets 3 times per year at a manufacturer or college</b>	A statewide group of manufacturers and stakeholders that provides regular input to FLATE's activities, curriculum and projects.
<b>Annual Distinguished Service Awardees</b>	Recognition of a partner who strongly supports one of FLATE's academic partners or programs.
<b>FLATE Heroes</b>	Hero recognition is given to individuals from any organization for service to manufacturing education.

*"I am very happy to commit to continuing my service on FLATE's NVC. I look forward to this new phase of FLATE that will build the capacity of the ET Degree, grow and strengthen the industrial community partnership with FLATE and continue to make Florida's manufacturing workforce grow to meet our demands for qualified technicians."*

*- B. Driggett, Hoerbiger*

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# Impact

Organizational

Outreach

Curriculum

Professional Development

**FLATE's impact** on its educational, industry and workforce stakeholders is captured in a variety of metrics. FLATE data comes from stakeholder and participant surveys, Florida Dept. of Education databases, various web statistics, anecdotal comments, and other sources. These define our activity successes and impact as well as provide feedback for process

## FLATE Activity and Impact

### Regional/Statewide Impact:

- Industry defined/endorsed Engineering Technology Degree (AS/AAS) degree approved by FL DOE in May 2007  
21 frameworks for 20 certificates and 11 specializations of the degree  
Developed with 12 partner colleges, 44 Florida manufacturing companies, FL Department of Education, Workforce Florida, Manufacturers Skill Standards Council, Manufacturers Association of Florida, Regional Mfg. Associations  
19 college ET Degree adoptions as of December 2016  
Three articulated high school framework submitted to FL DOE offered to a 124 of schools.  
Automation Production Technician (APT) impacting eight high school programs  
1,776 students enrolled in Engineering Technology college degree programs in 2015-16  
Awarded over \$220,000 to ET degree awarding college partners for laboratory upgrades
- Statewide articulation agreement for high school students and incumbent workers for 15 credit hours by achieving MSSC Sign MOU with FloridaMakes (FL MEP)
- Provided language for Career Academy legislation and testified before the FL House and Senate subcommittees
- Crafted the award for *Banner Center for Manufacturing* for related workforce training initiatives (2006-08, \$700,000)
- Awarded \$1.4 million in additional funding from NSF ATE for requested special projects
- FLATE has been leveraged by its partners to obtain over \$80 million in state and local funding
  - Provided 30,026 hours of professional development to 28,329 educators and 9,154 workforce, economic and manufacturing personnel in multi-day workshops, presentations, and through online webinars at hundreds of events in Florida, nationally, and worldwide
- Over 100,000 Florida students and educators reached by the *Made in Florida (MIF)* outreach campaign  
MFG Day Partnership (2013-16) introduced 10,251 students, 764 teachers and 586 parents and chaperons to Advanced Manufacturing at 290 advanced manufacturing tour events in 28 Florida counties
- More than 41 MIF industry-sourced, integrated STEM middle and high school lesson plans
- Recognition program for 3 outstanding educational and industry champions of manufacturing education
  - Supported 1,318 middle and high school students in summer STEM robotic camps since 2005
- Awarded 24 statewide recognitions since 2010 including Best Practice and Exemplary Practice Awards

### National and International Impact:

- Small Cap Award-Corp America 2016 Best Manufacturing & Technology Educational Facility in Florida, Florida Career Pathways Best Practice Awards "Recruiting and Retaining Females in Engineering & Engineering Technology Programs" and "What is Made in your Backyard, Free Educational Resources", MAF Best Practice, Synergy in Florida for its partnership with the Association of Colleges in the development of the Engineering Technology A.S. Program.
- Ten published FLATE Best Practices guides
- Over 170,179 individuals received the *FLATE FOCUS* online newsletters since 2009, with distribution to 32,179 in 2016. The FLATE was viewed nationwide in the U.S. & in 97 countries; winner of 2013 and 2014 APEX Awards for Publication Excellence
    - Public dissemination through [madeinflorida.org](http://madeinflorida.org) and [fl-ate.org](http://fl-ate.org) websites, blogs, and educator resources at [flate.pbworks.com](http://flate.pbworks.com) have served over 190,759 visitors to FLATE online resources since 2009
    - Model for integrating national skill standards into technician 2-year degree curriculum
    - Model for industry endorsed 2-year curriculum for A.S. degrees in Engineering Technologies
    - Seamless articulation to Florida BSET and BAS degrees
    - National advisory boards for Technical and STEM Education including ATE Centers, NAM, MSSC, NCPN, ACTE
    - International internship program helped FL host industry to increase production in 3% resulting of revenue increase to this operation in nearly two million US Dollars.



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# Successfully Completed

Organizational

Outreach

Curriculum

Professional Development

**FLATE has successfully completed** a number of projects dealing with curriculum, outreach and professional development. This page highlights some of those projects.



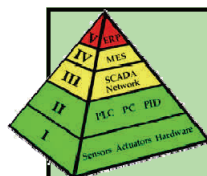
**The High School Technology Initiative (HSTI)** was an NSF funded project housed at USF and HCC to develop and implement curriculum modules amplifying the technology applications of fundamental science and mathematics principles. The modules could be easily integrated into science, math and technology courses and were supplemented with animations and video. Over 400 teachers nationwide were trained to use HSTI materials. These resources are now available on FLATE's wiki.



**Florida Trend NEXT** was run for 6 years in partnership with Florida Manufacturers. Over the course of the sponsored manufacturing advertorial, a total of 22,651 student leads were directly responded to by FLATE, and forwarded to 45 Florida colleges and technical schools. The NEXT advertorials directly connected tomorrow's workforce to advanced manufacturing college and careers, promoting positive awareness of career pathways for Florida's high tech manufacturing jobs.

Florida Center of Excellence  
**FCoE-BITT**  
Biomolecular Identification and Targeted Therapeutics

**The Biomolecular Identification and Targeted Therapeutics Center** at the University of South Florida was a Florida Department of Education Center for Excellence. Beginning in January 2008, FLATE partnered with BITT to facilitate the workforce development components of BITT for biotechnology technicians. As a result, HCC and other Florida colleges implemented successful A.S. Biotechnology programs and trained educators and workers.



**HAS 200**— It is more apparent than ever that America's technician workforce needs to have more experience in system thinking, the HAS 200 technical education consortium in partnership with SMC Inc has developed curriculum and training resources to help colleges across the country address this demand. This completed \$1M, 10 nationwide college partner project puts students in front of an integrated system with hands-on scenarios that develop student system trouble shooting skills.

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# Baldrige/Sterling Evaluation



Organizational

Outreach

Curriculum

Professional Development



**FLATE's evaluation plan** consists of 2 interdependent levels – various types of data validate its performance with respect to its past, present and future goals and objectives and an overarching, strategically-oriented process ensures FLATE continues to strive for improvement in our processes and products. FLATE's strategy is to fully integrate its NSF ATE evaluation requirements with the nationally recognized

Malcolm Baldrige (Florida Sterling) Quality Process. Actions and activities are driven by opportunities identified by stakeholders. Our plan is cyclic with three phases each with several components.

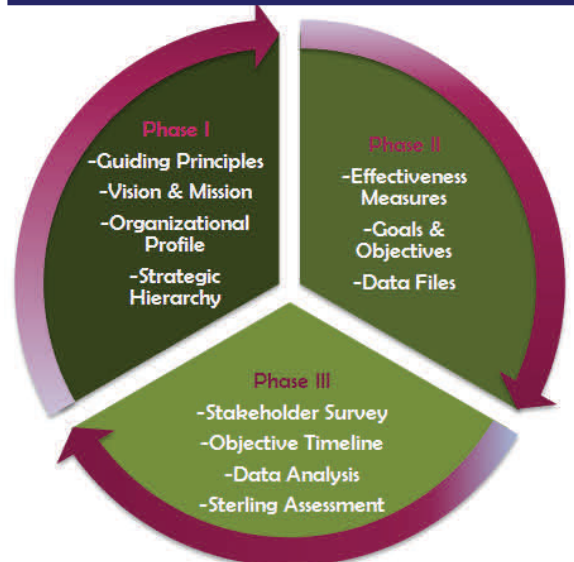
Sterling Assessment Scoring	Available Points	2008	2010	2012	2014	2016
Leadership	140	42	56	63	84	91
Strategic Planning	100	40	50	45	55	55
Customer Focus	100	40	40	50	55	60
Measurement, Analysis, and Knowledge Management	100	25	30	40	45	50
Workforce Focus	100	30	30	30	45	50
Operations Focus	100	30	30	40	55	55
Results	100	126	126	144	162	169
Total	360	333	362	412	501	530



Bi-Annual Stakeholder Survey Results (2015, n=194)	% agree or strongly agree
I have easy access to FLATE staff & products	84%
FLATE staff have helped me whenever I requested it	80%
Professional development initiatives have assisted me	65%
Curriculum reform initiatives have assisted me	61%
Curriculum materials have assisted me	66%
The "Made in Florida" outreach campaign has assisted me	71%

## 2016 FLATE Strengths

- Strong environment for two-way communication & stakeholders engagement
- Activity and performance improvements based on stakeholder/customer feedback
- Operational effectiveness & strategy implementation



"This is really fantastic! I recognized the merit of FLATE choosing an industry process for quality systems immediately. You are doing a great job implementing the Sterling process."

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# NSF ATE Joint Exhibits



Organizational

Outreach

Curriculum

Professional Development



The NSF ATE Joint Exhibits are geared to promote the NSF ATE mission through dissemination of information and showcasing of ATE programs, products, expertise, and services at key regional and national conferences. The ATE Centers (43 in 2016) display at 8-11 joint exhibit events per year. These exhibits have proven to be an effective mechanism to provide highly visible, coherent impact to a variety of regional and national stakeholders.

## ATE Center Joint Exhibit Events 2016

January	WDI	Workforce Development Institute
February	CIEC	Conf for Education & Industry Collaboration
March	LOI	League for Innovation
April	AACC	American Association of Community Colleges
May	NAWI	National Association Workforce Improvement
June	ASEE	American Society for Engineering Education
October	NCATC	Nat Coalition of Advanced Technology Centers
October	NCWE	National Council for Workforce Education
October	NCPN	National Career Pathways Network
November	STEMtech	STEMtech
November	ACTE	Association of Career and Technical Education



## Joint Exhibit Center Participation (2008– 2016)

Year	# of Events Per Year	# of Centers Participating	# of Participants by Year
<b>2008</b> (34 centers)	2	12	16
<b>2009</b> (36 centers)	6	18	47
<b>2010</b> (36 centers)	7	23	84
<b>2011</b> (40 centers)	7	28	86
<b>2012</b> (48 centers)	6	26	66
<b>2013</b> (42 centers)	9	18	67
<b>2014</b> (42 centers)	10	20	71
<b>2015</b> (42 Centers)	10	16	54
<b>2016</b> (43 Centers)	11	21	60

## ATECENTERS IMPACT

"Participation in the ATE-Center NSF joint displays indicates a strength in breadth of technical centers but also allows them to exchange ideas, materials and possible future collaboration with each other." - *Mary Jane Kurtz*

"It is a great team effort and I always learn something new about the different ATE centers every time I participate. That allows me to connect my contacts with other centers that could be useful to them." - *Billie Copley*

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# Educator Resources



Organizational




Outreach

Curriculum

Professional Development

FLATE's online free Educational resources are intended to increase student's awareness and interests in the field of manufacturing and all the careers it represents. It features STEM centered, industry-connected lesson plans for K-12 school teachers and their students. Includes support materials for tours to high tech industries, and resources to help engage and recruit girls to STEM curriculum and support technology career pathways. In addition, educators can keep current with the latest National and International advanced technology education conference materials and presentations.



Educational Resources	Titles	
<b>MIF Lesson Plans for:</b> <ul style="list-style-type: none"> <li>Elementary</li> <li>Middle</li> <li>High School</li> </ul>	 	
<ul style="list-style-type: none"> <li>Career &amp; Education Planning</li> <li>Girls STEM Resources</li> </ul>	 	
<ul style="list-style-type: none"> <li>Modules for Adv. Technological Education</li> <li>Presentations &amp; Webinars</li> <li>Professional Development for Teachers</li> </ul>	  	
<ul style="list-style-type: none"> <li>Industry Tour</li> <li>Camp Resources</li> </ul>	 	

MIF Wiki Resources	Online Visits	Page Views
Wiki-High School Challenges	104	149
Wiki-Middle School Challenges	88	169
Wiki-Career & Education	263	399



This project supports FLATE's goal to unify and enhance Florida's secondary and post-secondary STEM and manufacturing curriculum.

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# Engineering Technology Education

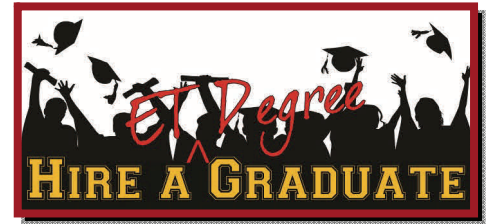
Organizational

Outreach

Curriculum

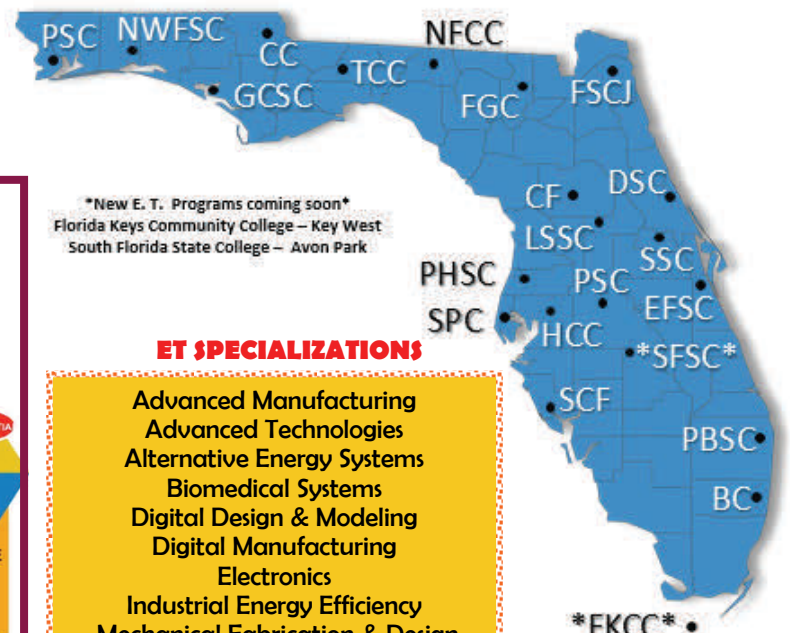
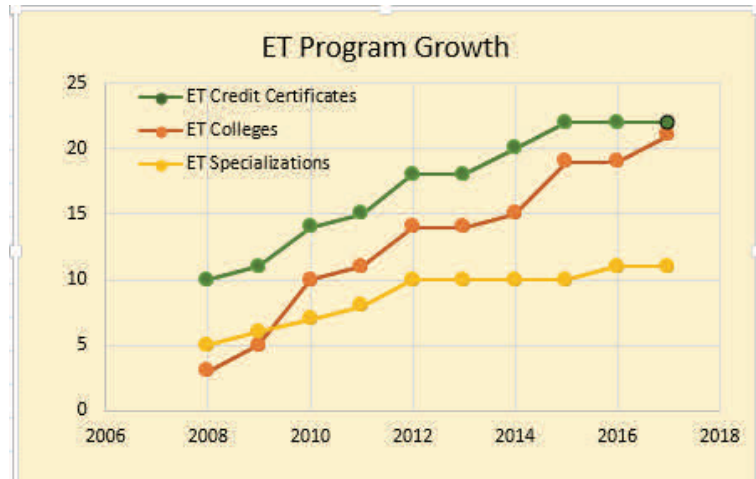
Professional Development

Industry, colleges, FLATE, and the Florida Department of Education partnered to produce the **Engineering Technology** A.S. Degree Program. It has 3 components: (I) general education (II) an ET technical core and (III) specialization tracks (11) that address regional industry needs. The ET Core aligns with the Manufacturing Skills Standards Council Certified Production Technician (MSSC-CPT) national certification, which articulates 15 credit hours of the ET Core. The A.S. ET Degree articulates seamlessly to Florida's B.S.E.T. degrees. This industry validated, credentialed based articulated degree is a model for national implementation of accelerated workforce education strategies. In fall 2017, twenty-two state and community colleges will offer the A.S. ET degree.



## Colleges Offering the A.S. ET Degree

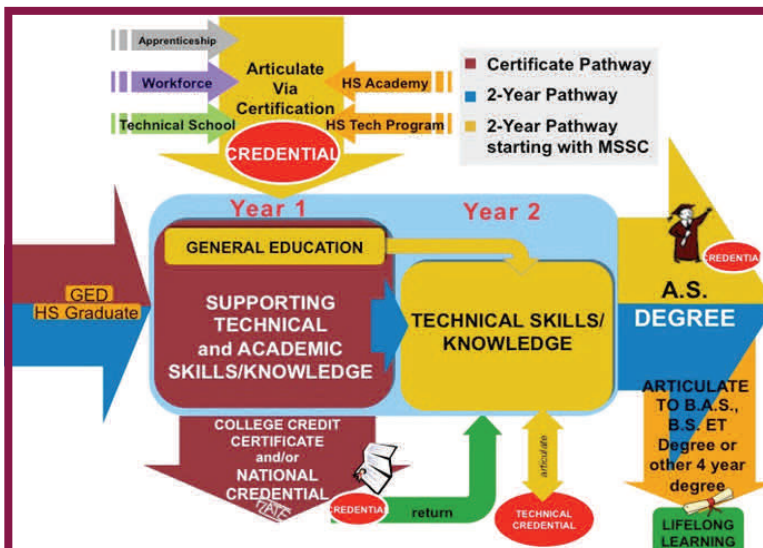
1. Broward College (BC)
2. Central Florida College (CCF)
3. Chipola College (CC)
4. Daytona State College (DSC)
5. Eastern Florida State College (EFSC)
6. Florida State College at Jacksonville (FSCJ)
7. Florida Gateway College (FGC)
8. Florida Keys Community College (FKCC)\*\*
9. Gulf Coast State College (GCSC)
10. Hillsborough Community College (HCC)
11. Lake Sumter State College (LSSC)
12. North Florida Community College (NFCC)
13. Northwest Florida State College (NWFS)
14. Palm Beach State College (PBSC)
15. Pasco Hernando State College (PHSC)
16. Pensacola State College (PSC)
17. Polk State College (PSC)
18. Seminole State College (SSC)
19. South Florida State College (SFSC)\*\*
20. State College of Florida-Manatee (SCF)
21. St. Petersburg College (SPC)
22. Tallahassee State College (TSC)



\*New E. T. Programs coming soon\*  
 Florida Keys Community College – Key West  
 South Florida State College – Avon Park

### ET SPECIALIZATIONS

Advanced Manufacturing  
 Advanced Technologies  
 Alternative Energy Systems  
 Biomedical Systems  
 Digital Design & Modeling  
 Digital Manufacturing  
 Electronics  
 Industrial Energy Efficiency  
 Mechanical Fabrication & Design  
 Quality  
 Relay Substation



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# ET Students and Alumni



Organizational

Outreach

Curriculum

Professional Development



FLATE currently uses a 2-pronged approach to obtain information about ET students and graduates: the Florida Education and Training Placement Information Program (FETPIP), and anecdotal data collected from surveys. FLATE's Linked-In site also provides a valuable self-sustaining mechanism where ET alumni connect, network, and identify job opportunities. More information at <http://madeinflorida.org/e-t-alumni/>

*"Every day there is some part of my degree that I use, rather the hydraulics, PLC, motors & controllers and the other parts like Quality and one of the biggest things now is the Lean Six Sigma."*

*"The ET program has opened up many opportunities in industry and help me develop a rich background of knowledge. It helped me to realize the diversity of the field as I pursued my bachelors and then masters. I now teach at Northwest Florida State college in the Engineering Technology program."*

**Did you know?**

**State of Florida data reports 73% of ET graduates are employed.**

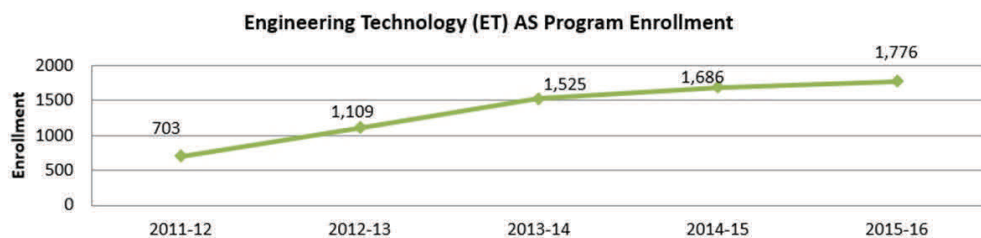
**83.3% (n 30) of surveyed ET Alumni report using the technical knowledge acquired in the Engineering Technology A.S. degree in their job.**



**Earn YOUR spot in Florida's high-tech fast lane!**

I a. ET AS Degree Program Student Enrollment Excluding CCC	2011-12	2012-13	2013-14	2014-15	2015-16
ET AS Student Enrollment	703	1,109	1,525	1,686	1,776
Number of Colleges Adopting the ET Program*	14	14	15	19	19

\*Out of Florida's 28 Community and State Colleges



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# Manufacturing Curriculum, Credit & Credentials

Organizational

Outreach

Curriculum

Professional Development

Skills attainment and documentation in Career and Technical Education at all levels are evolving to include alignment to industry-validated credentials. In 2007, FLATE included such an alignment of the ET Technical Core to MSSC's Certified Production Technician (CPT) Credential. Credential alignment also provides uniform accelerated pathways into post-secondary degree programs from high schools. FLATE has also aligned industry credentials to the second year skills in some ET degree specializations. These credentials are endorsed by the Manufacturing Institute as part of their



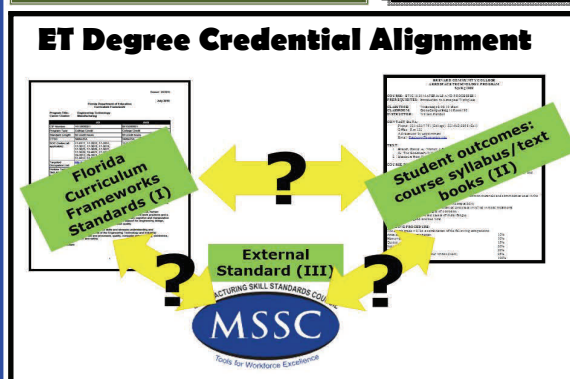
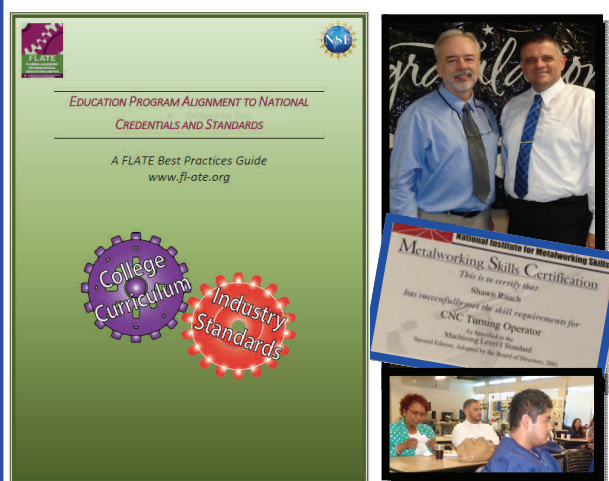
AS Engineering Technology Degree	Credits	Certifications Aligned & Articulated
I. General Education	15-18	
II. ET Technical Core	18	MSSC CPT > Technical Core
III. Specialization (2nd year)	24-27	NIMS > Mechanical Fabrication & Design ETA > Electronics (coming soon) AWS > (new specialization)
I + II + III	60	<b>A.S. E.T. Diploma + MSSC + others</b>



[Link to FDOE Manufacturing cluster home page](#)

**\*NOTES to Educators and Users of the Alignments and Crosswalk Documents**

FLORIDA SECONDARY LEVEL ALIGNMENTS/CROSSWALKS	FLORIDA POST SECONDARY LEVEL ALIGNMENTS/CROSSWALKS
<a href="#">Link to current FLDOE Secondary Machining Technology Framework</a>	<a href="#">Link to current FLDOE Post Secondary Machining Technology Framework</a>
<a href="#">Secondary Machining Technology Framework alignment and crosswalk to NIMS credentials</a>	<a href="#">Post Secondary Machining Technology Framework alignment and crosswalk to NIMS credentials</a>
<a href="#">Secondary "High Level" Machining Tech-NIMS Alignment (alignment summary)</a>	<a href="#">Post Secondary "High Level" Machining Tech-NIMS Alignment (alignment summary)</a>
<b>FLORIDA A.S. LEVEL ALIGNMENTS/CROSSWALKS</b>	
<a href="#">Link to current FLDOE AS ET Degree Frameworks (w Mechanical Fabrication &amp; Design specialization)</a>	
<a href="#">ET Degree Mechanical Fabrication and Design Specialization alignment and crosswalk to NIMS credentials</a>	
Links to current FLDOE Frameworks for College Credit Certificates (CCCs) under Mechanical Fabrication and Design Specialization:	
<a href="#">CNC Machinist / Fabricator (CCC - 0648051002)</a>	
<a href="#">CNC Machinist Operator / Programmer (CCC - 0615000015)</a>	
<a href="#">Mechanical Designer and Programmer (CCC - 0615080503)</a>	
CCC-NIMS alignment files:	
<a href="#">CNC Machinist Operator CCC alignment and crosswalk to NIMS credentials</a>	
<a href="#">CNC Machinist-Fabricator CCC alignment and crosswalk to NIMS credentials</a>	
<a href="#">Mechanical Designer and Programmer CCC alignment and crosswalk to NIMS credentials</a>	
<a href="#">Florida AS ET Degree "High Level" Alignment (alignment summary)</a>	
<b>FLORIDA CAPE FUNDING LISTS and STATEWIDE ARTICULATIONS</b>	
<a href="#">FLDOE Website for CAPE Certification Lists (Secondary and post-secondary) and statewide articulations</a>	



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# International Programs



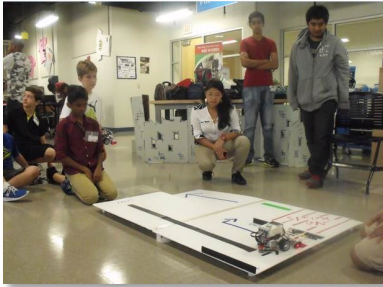
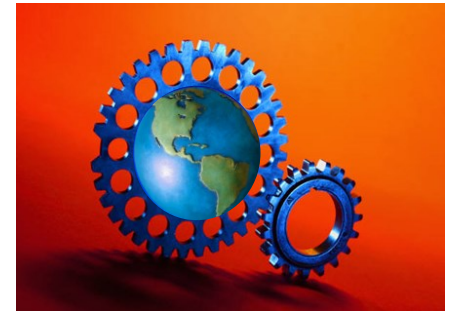
Organizational

Outreach

Curriculum

Professional Development

FLATE has become involved with a number of international organizations to work on programs that provide advanced international professional development for faculty & students in E. T. A.S. Degree programs, strengthen collaborations between community colleges, faculty, & FL Industries.



Partnership with DuolC, Chile to promote technical ed.



The Iberian Partnership program, International internship program helped FL host industry to increase production in 3% resulting of revenue increase to this operation in nearly two million US Dollars.

## International Partners

	<p>Ibero-American Science &amp; Technology Education Consortium. Foster sustainable socio-economic development in Ibero-America by promoting STEM education, disseminating knowledge and encouraging international research</p>
	<p>Center for Innovation in Basque Vocational Training. Collaborative networks and alliances with companies, university research departments, technology centers &amp; advanced management services.</p>
	<p>URBILGO LANBIDE ESKOLA- institute of professional education with 2 year and 4year degrees</p>
	<p>International work placement program for Vocational Engineering Technology-graduates financed by the Basque Government</p>
	<p>Heziketa Teknikoko Elkarte - Association of 22 Vocational Training Centers in Spain, to promote &amp; improve Vocational Training in the Basque Country</p>
	<p>Politeknika Ikastegia Txorierri Center that promotes Innovation in Technological Educational</p>
	<p>Republic of Slovenia - Minister of Education, Science and Sport</p>
	<p>Duoc UC, Professional institute and technical training center in Chile. Focus in technical and professional hands on training.</p>



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# Engineering Technology Forum

Organizational

Outreach

Curriculum

Professional Development

## FORUM on Engineering Technology

The **Forum on Engineering Technology** (E.T. Forum) is an important vehicle for bringing together Florida's diverse and geographically dispersed community. FLATE works within this organization to strengthen the consortium, share its administrative

activities and projects, provide professional development, bring industry and academia together, and engage in statewide curriculum reform. It's a strong venue for sharing college program achievements, issues and concerns across Florida. Over the years, it has become a collaborative community of practice. The Forum meets twice a year; the 2-day meeting has met thirty-five times since 1996 at over 20 different Florida colleges.



Facility	Dates
Eastern Florida State	2007
College of Central Florida	2007
Chipola	2017
Daytona State	2000, 2005, 2011
Florida State	2011
Florida Keys Community	2014
Florida State of Jacksonville	2003, 2010
Gulf Coast Community	1997, 2003, 2014
Hillsborough Community	2005, 2013
Indian River State	1998, 2006, 2012
Lake Sumter SC	2016
Miami Dade	2001
Palm Beach State	2004
Pensacola State	2008
Polk State	2009, 2014
State College-Manatee	1998, 2012
St. Petersburg	2002, 2009, 2013
Seminole State	2008
Tallahassee Community	2010, 2017
University of Central Florida	1996
Valencia	1999, 2006, 2015

Here is what participants have to say:

*"The ET Forum is great for net working opportunities and sharing ideas. It is great being with peers that actually understand the challenges we face in public education."*

*"This form is essential for maintaining awareness of state changes and plans for Associate degrees. It is necessary in order to see demonstrations of manufacturing latest tools to improve classroom instruction. It is necessary as a place to exchange ideas and hear of solutions to common problems and issues."*

Surveys shows that 94.5% consider the forum content and topics are very relevant with very good and excellent scores.

96.2% agreed that the overall PD is very good and excellent

### ET Forum General Meeting Cumulative Satisfaction Rating 2007-2016

Curriculum	4.5
Professional Development	4.7
Recruiting	4.3

\*Based on 556 returned surveys

Rating Scale= Excellent-5, Very Good-4, Good-3



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# Florida Energy Systems Consortium

Organizational

Outreach

Curriculum

Professional Development

The 2008 Florida Legislature defined goals and specific objectives with respect to energy production and consumption to meet its 2020 target criteria. The FESC-FLATE partnership defines FLATE as FESC's core facility for community college technical workforce education development and deployment throughout the state. FESC is strategically focused on workforce preparation for the existing and emerging energy industry. The grant drew to a close in June 2016.



## Community College Workshops

One of the specific accomplishments of this partnership was the design, development and implementation of an annual Community and State Colleges Energy Education Workshop / Forum. These workshops has been intended to bring educators and industry people from all over Florida together to learn and share ideas and knowledge about energy education and energy industry workforce needs.



### Summer Energy Camps

FESC at HCC ran one-week summer energy camps for middle school students in Hillsborough County for five years. Feedback from both teachers and students was always fantastic.



### JOB TASK ANALYSIS—Smart Grid Technician

The Advanced Technology and Energy Center (ATEEC) partnered with FLATE to do a Job Task Analysis (JTA) for the

Smart Grid Technician program in Florida. This event was hosted by Palm Beach State College in 2015 to crystallize the course content with input from both the education and industry worlds to ensure that training is matched directly to industry needs. The report generated was published and available for download on FLATE's wiki.

## FESC-FLATE Activities

Partner with the Florida Energy Workforce Consortium (FEWC) .

Articulation Agreement Development

Mentoring college and high school programs.

Recruit for Summer Externship Program

Job Task Analysis for Smart Grid Technicians

Job Task Analysis (JTA) for Smart Grid Technician, Palm Beach Gardens

Participation/presentation in the annual FESC Workshop/Forum

Partnering with the Florida Energy Teachers Network Meeting (FETN) activities.

Support college sustainability program development.

Disseminate FESC and FESC FLATE activities and programs.



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# Soft Skills Activity



Organizational

Outreach

Curriculum

Professional Development

The Toothpick Factory® is a hands-on activity, set in a manufacturing context, that stimulates discussion and awareness about a wide range of *soft skills* that are essential in today's work and personal relationships. These are workplace standards of behavior needed by employees to interact and cooperate effectively with co-workers. The hands-on activity engages students in a non-threatening simulation so they can focus on teamwork and communication skills.



## Objectives

- How to be a good team player
- How to adapt to change
- How to lead others
- How to communicate effectively
- How to offer & receive feedback



## Strategy

Structured to put participants in a "real world" scenario where each one has a specific role in the manufacturing process



TPF Kits Sales since 2009

365

Soft skills workshops since 2009

Over 28 professional development event all over U.S.A.

Impact since 2009

More than 739 students & educators & Industry leaders

"Wonderful activity and participant engagement"  
"Fun and innovative"  
"Useful and enjoyable"



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# Professional Development



Organizational

Outreach

Curriculum

Professional Development

FLATE Professional Development for technical faculty and educators in STEM curriculum provides opportunities to develop, refine or certify their knowledge base within manufacturing and/or its related enabling technologies and educational pedagogies. Workshops take advantage of the summer break for educators, and are offered by request throughout the year to college faculty and K-12 teachers. 2016 workshops included the 5th annual FLATE Summer Institute (Manufacturing Careers), 7th annual FLATE Summer Camp for Teachers (Lego Mind Storms), Alternative Energy camp and tours to manufacturing companies. Workshops are filled with real and fun hands on activities and industry tours.



# Of Hours of Professional Development Provided	# Of Educators that Participated	# Of Workforce, Economic & Manufacturing Personnel
30,026	28,329	9,154
Data collected at hundreds of events in Florida, nationally & worldwide from 2008-2016		

Discover the latest  
FLATE PD Work-  
shops at  
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*"Great workshop with a wonderful facilitator."*

*"The resources that were shared will be very helpful"*

*"I enjoyed doing all the hands on activities!"*



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# Best Practices Guides

Organizational

Outreach

Curriculum

Professional Development

An important part of FLATE's NSF mission is sharing our learning and expertise through dissemination. To this end, FLATE began work in 2010 on a **"FLATE Best Practices Guide"** series to share FLATE-developed documents and outreach structure for FLATE camps, tours, newsletter, and strategic partnership building strategies. These booklets are a

compilation of "best practices" based on our experiences, focus groups, and stakeholder feedback and are available in an online print-ready format to facilitate wide range dissemination and as online flip-books on our FLATE home page.

<ul style="list-style-type: none"> <li>• <b>Forging Positive Partnerships in Florida</b></li> </ul>	<ul style="list-style-type: none"> <li>• <b>Engineering Technology High School Camp</b></li> </ul>
<ul style="list-style-type: none"> <li>• <b>Statewide Curriculum &amp; Degree Program Review Processes</b></li> </ul>	<ul style="list-style-type: none"> <li>• <b>Industry Tours for Students</b></li> </ul>
<ul style="list-style-type: none"> <li>• <b>FLATE Communications Program (Updated)</b></li> </ul>	<ul style="list-style-type: none"> <li>• <b>Recruiting &amp; Retaining Girls in STEM</b></li> </ul>
<ul style="list-style-type: none"> <li>• <b>Robotics Camp Survival Guide (Updated)</b></li> </ul>	<ul style="list-style-type: none"> <li>• <b>Professional Development (new)</b></li> </ul>
<ul style="list-style-type: none"> <li>• <b>Curriculum Alignment to Credentials (new)</b></li> </ul>	<ul style="list-style-type: none"> <li>• <b>Project Highlights (Updated)</b></li> </ul>



This activity supports FLATE's goal to provide an effective outreach platform.

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# Career and Technical Student Organizations

Organizational

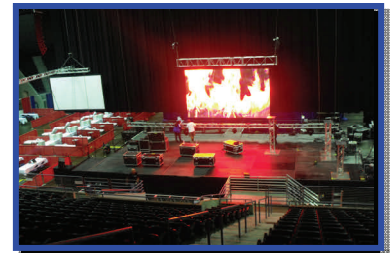
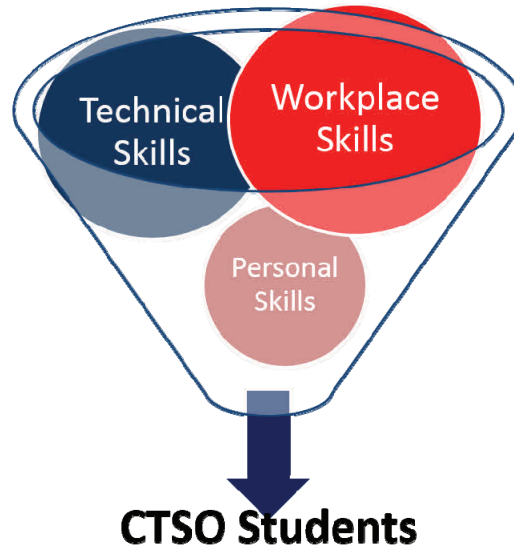
Outreach

Curriculum

Professional Development

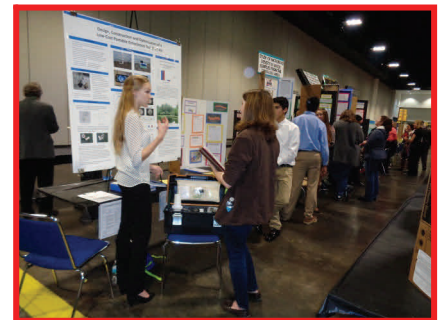


**Career and Technical Student Organizations** create environments where students aspire to be the best in their advanced technology careers. As members, students not only develop technical skills, but also leadership qualities, professionalism and teamwork skills as demonstrated in the local, regional, state national and international competitions. FLATE supports students and educators in local, regional, state. national and international competitions.



## FLATE Involvement

- Competition sponsorship
- Coaching and mentoring
- Competition judging
- Host events and tournaments
- Recruit sponsors
- Competition development
- Logistics
- Support team equipment/supplies
- Provide technical expertise
- Outreach activities
- Teacher professional development



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# Robotics Camps

Organizational

Outreach

Curriculum

Professional Development

**Summer Robotics Camps** capture the interest and imagination of middle and high school students by following current exciting trends in robotics and automated systems. FLATE's robotics camps are geared to provide exciting opportunities for students to explore their interest in STEM and robotics and learn their application in high-tech manufacturing operations. The summer camp curriculum is a mixture of Lego educational materials, STEM subjects and modern manufacturing information conducted in an environment of competitive problem solving. More information at [fl-ate.org/programs/summer-camps/](http://fl-ate.org/programs/summer-camps/)



## Parents Share:

*"This camp is going to give my daughter the needed boost of confidence as she joins the STEM program."*

*"She comes home so excited and energized. She learned so much overall and had a very good time."*

*"You are inspiring the future generation of engineers!"*



## Kids Share:

*"I learned MORE in this camp than I ever learned in the three years of high school robotics."*

*The camp has definitely changed my opinion of manufacturing & curiosity about careers in that field.*

*The obstacle course was the hardest for me, but it also challenged me to solve problems.*



Camps are typically five days in length and include classroom & lab exercises, team experiences, field trips, and fun!

## 2005-2016

## Details

1, 204 robotics campers @ FLATE-HCC

355 Girls

849 Boys

77 Different STEM Summer Camps

Co-ed Introductory and Intermediate Robotics, Girls Only, and High School Engineering Technology Camps at Hillsborough Community College and St. Petersburg College

Serving Mainstream & Special Student Populations

STEM Career Academies, PACE Center for Girls, CROP at HCC, Middle and High School students

15 Community Partnership STEM and Robotics Camps

CareerSource Pinellas, College of Central Florida (CCF), Escambia County School District, Florida Gateway College (FGC), Institute for Human and Machine Cognition (IHMC), Palm Beach State College, Pineview School, Dream !t, Do !t Motorola Foundation, St. Pete College, Duval County Schools, Lake Sumter State College, Withlacoochee Tech, Miami-Dade Schools



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# Recruiting Girls

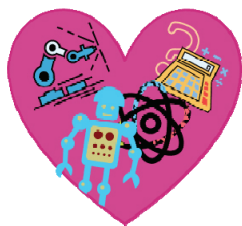


Organizational

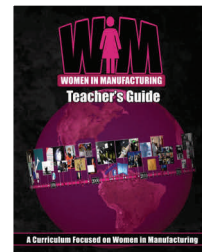
Outreach

Curriculum

Professional Development



FLATE has a diverse portfolio of resources that are targeted to recruit girls and women in STEM. The Center has designed and formulated numerous projects and programs designed to spark females' interest in STEM fields and to encourage them to pursue engineering college and career pathways.



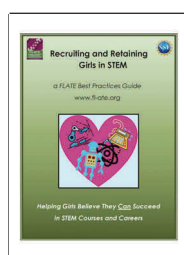
## NEW! Women in MFG Video, Interviews & Curriculum

[flate.pbworks.com](http://flate.pbworks.com)

FLATE's newest **"Women in Manufacturing"** video serves as an effective tool in highlighting the role and significant contributions of women who have made remarkable strides in the Manufacturing workforce. The video discusses pertinent issues about the role women have played in the manufacturing industry.

FLATE has also built a **Teacher's Guide** featuring three comprehensive curriculum and lesson plans that addresses issues outlined in the Women in Manufacturing video. The curriculum/lessons:

- ✓ align with the new Florida Standards (SP.PK12.US.3.3b)
- ✓ designed to serve as teaching aids to help educators formulate lessons
- ✓ provide a first-hand look at real-life scenarios surrounding gender bias in the hiring process



### BEST PRACTICES Guide Recruiting Girls For STEM Careers

This guide is designed to provide resources and practical information for educators and parents on how to encourage girls and make them aware of the many high wage high tech careers available to them.

### FLATE Supports National STEM Initiatives



### Girls Robotics Camps



Annual, all-girls robotics camps allows students to build, program and operate robots, all the time increasing their confidence and opening their eyes to the world of STEM "in action."

### Recruiting Girls in STEM Webinars

FLATE offers webinars and workshops for STEM educators that looks at "what works" from the unique perspective of teachers in the field at progressive levels of education: Elementary, Middle, High School, and College programs and outcomes.



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# FLATE Awards



Organizational

Outreach

Curriculum

Professional Development



FLATE's Distinguished Manufacturing Service Recognition Program, hosted by FACTERE, brings recognition to both secondary and post-secondary educators as well as recognizes key personnel for outstanding contributions to promote technology education and career awareness in support of manufacturing. FLATE's Industrial Advisory Committee and FACTERE.



## Secondary Educator of the Year Award

Ted Norman  
Gil Burlew  
Jim Mathews  
David Lintner  
Greg McGrew  
Steve Portz  
Bruce (Dale) Toney  
Russell Henderlite  
Elizabeth Simpson

## Post-Secondary Educator of the Year Award

Meer Almeer  
Ed Niespodziany  
Norm Brahs  
Dean Eavy  
Robert Deckon  
Adrienne Gould-Choquette  
Alessandro Anzalone  
Aubri Hanson  
Kevin Finan

## Distinguished Manufacturing Service Award

Steve Lezman  
Anthony Fedd  
Mike Ennis  
Art Hoelke  
Mark Snyder  
Peter Buczynsky  
Roy Sweatman-SMT  
Ken Jurgensmeyer  
Jerry Custin



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# Communications



Organizational

Outreach

Curriculum

Professional Development



**FLATE's Communications Program** informs state and national stakeholders, including local and regional media, about the Center's multi-faceted communications initiatives. The Center's strategic communications program is designed to reflect and match FLATE's vision "to be Florida's leading resource for education and training expertise, leadership, projects and services to promote and support the workforce in the high performance production and manufacturing community." The Center uses print, web, and social media tools to disseminate information about its activities and projects to key stakeholders.

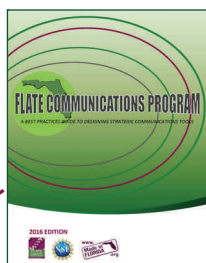
For more information visit [www.fl-ate.org/news](http://www.fl-ate.org/news).

Press Materials	Description
<b>NEWSLETTER</b>	Published since Spring 2007, and distributed to nearly 3000 individuals in Florida and across the nation. Readership comprises of an eclectic mix of government, education and industry partners. The FLATE Focus is also a two-time Apex Award winner. You can read the newsletter blog at <a href="http://flate-mif.blogspot.com">http://flate-mif.blogspot.com</a>
<b>PRESS RELEASE &amp; NEWS ALERTS</b>	FLATE frequently reaches out to its local/statewide stakeholders and press contacts using web 2.0 tools. Press Release & news alerts are an effective mechanism in keeping stakeholders informed and engaged in FLATE's professional development, educational and outreach initiatives. Read the latest new release and alerts at FLATE's Press Room: <a href="http://pressroom.prlog.org/FLATER">http://pressroom.prlog.org/FLATER</a>
<b>SOCIAL NETWORKING</b>	To build a common platform and crosswalks for students, educators and industry engaged in manufacturing/technician education & training to freely interact, FLATE maintains social profiles on various sites. Search " <i>Made in Florida</i> " on the following networks for more information. 
<b>MANUFACTURING NEWS</b>	Highlights statewide & national industry-related news, and are published in the FLATE' Focus.
<b>MEDIA</b>	Organizational information, current and future projects primarily for media and/or related events.

## Feedback on FLATE Focus

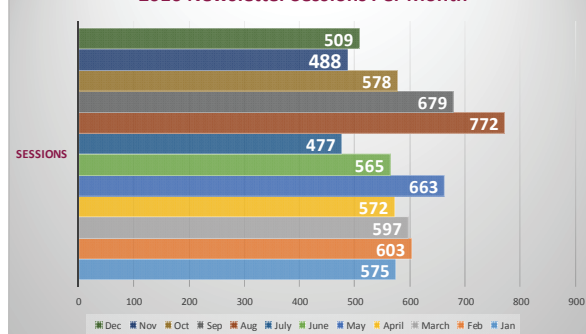
"These newsletters are always great and I commit to being more engaged as we start a new year!" *Cindy Anderson, Executive Director, Northwest Florida Manufacturers Council*

"Great Newsletter. Thanks for all the work you do to help students & educators." *Barbara Frazier, FMI STEM Academy*



**NEW BEST PRACTICE**

## 2016 Newsletter Sessions Per Month



This activity supports FLATE's goal to provide an effective outreach platform.

[www.fl-ate.org](http://www.fl-ate.org) | [www.madeinflorida.org](http://www.madeinflorida.org) | [www.flate.pbwiki.com](http://www.flate.pbwiki.com) | [www.flate-mif.blogspot.com](http://www.flate-mif.blogspot.com) | [flate@fl-ate.org](mailto:flate@fl-ate.org)



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# Websites



Organizational

Outreach

Curriculum

Professional Development



**“Fl-ate.org”**—FLATE’S homepage has been live since 2003, and was relaunched in 2015. The user-friendly website serves as a storehouse of information, and is a portal for accessing FLATE’s curriculum & professional development resources. The website is also one of the primary vehicles in showcasing ongoing FLATE/ Manufacturing-related activities, events, and accolades.



## FL-ATE.ORG RESOURCES

**Engineering Technology Education (NEW)**  
**Videos (NEW)**  
**News, Events & Publications**  
**Committees & Partners**  
**FLATE Focus/New**  
**Baldrige/Sterling Evaluation Process**  
**Corporate Information (Mission/Vision)**  
**Professional Development Opportunities**

## WEBSITE STATS

### MadeInFlorida.org

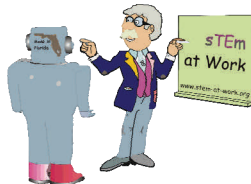
Since 2009, the *Made in Florida* website has received **89,684** visits!

### fl-ate.org

Since 2009, the FLATE website has received **85,260** visits!

## Stem-at-Work Puzzle Hits 2016

**Total Visits: 847**  
**Total Pageviews: 1436**



## Made in Florida

Website that tells you all the COOL stuff that’s made in your backyard!



## MadeinFlorida.org RESOURCES

**Florida Manufacturing Overview**  
**Robotics Camp**  
**Employee Interviews**  
**Links to MFG Exploring Websites**  
**E.T. Degree Resources**

**Salary/Wages Information**  
**Florida Manufacturing Facts**  
**Outreach Kit**  
**Manufacturing Careers & Pathways**  
**Classroom Learning Resources**  
**Outreach Publications**  
**Links to MFG Careers Information**  
**“Made in Florida” Video**  
**FLATE Contact for Assistance**

**FLATE’s wiki**  
 ...full of great FREE RESOURCES for you!

**flate.pbworks.com**

**“MadeinFlorida.org”** is FLATE’s dedicated outreach website launched in 2005. The website is a rich storehouse of information connecting students, parents and educators to the real world of manufacturing.

## WHAT OTHERS ARE SAYING ABOUT THE MADE IN FLORIDA SITE

*“Made in Florida”* provides comprehensive promotion and connection for Florida’s advanced manufacturing industries, K-20 technical educators, and students.



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# Florida Manufacturers Display



Organizational

Outreach

Curriculum

Professional Development



FLATE has a fabulous, "Made in Florida" display cabinet showcasing parts and products made by companies right here in our state. The visuals these products provide are invaluable in bringing manufacturing to life in the eyes of students. The **Florida Manufacturers Display** is located on at the Hillsborough Community College Brandon campus Student Services Building, adjacent to the manufacturing labs. The items donated by Florida manufacturers are either final or intermediate stage products; something used in the production process or raw materials. These are also used during "Made in Florida" classroom presentations and by students in HCC's Engineering Technology Program.

**Some products displayed in our cabinet include...**

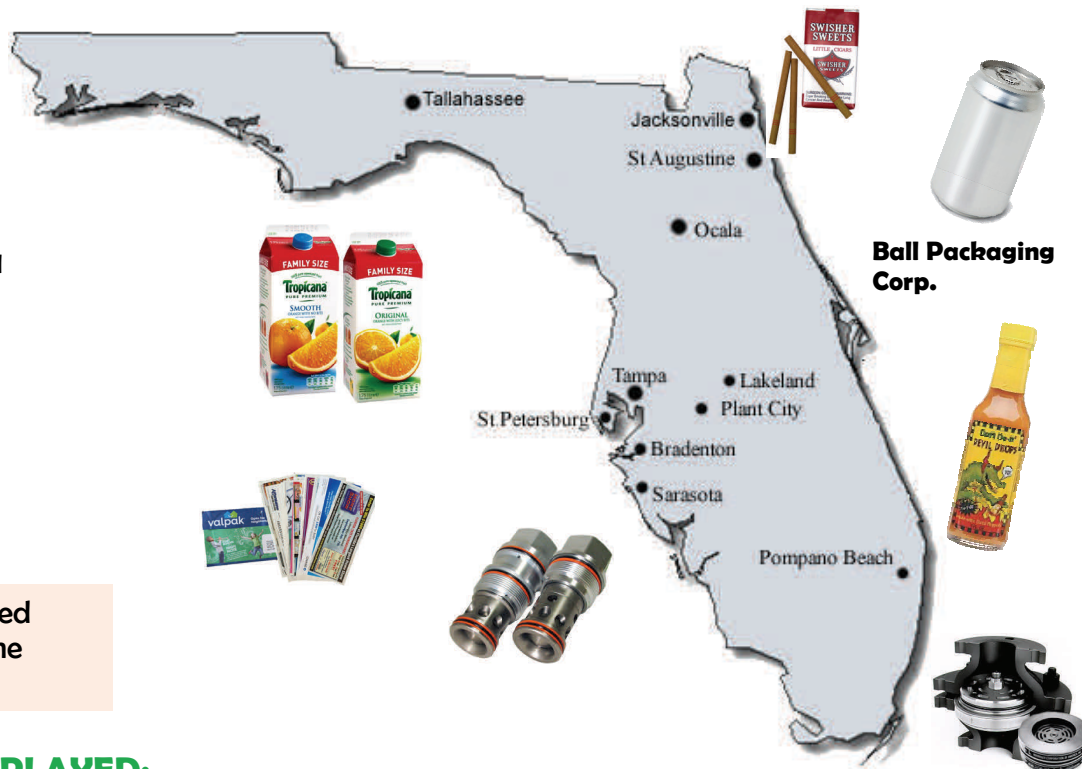


**MicroLumen Medical**



**LidWorks  
Plant City, FL**

The products are rotated periodically to keep the display "fresh."



## COMPANIES DISPLAYED:

Applied Materials	Ball Packing Corp.	Biomet 3i
Catrike	Cellynne Corp.	Coastal Caisson
ConMed Linvatec	Dat'I Do-It Inc.	Florida's Natural
Hoerbiger Corp. of America	Honeycomb Co. of America	LidWorks
Measurement Supply	MicroLumen	Micron Pharmaworks
Pall Aeropower	Peterbrooke Chocolatier	Signature Brands
Sun Hydraulics	Sundown	Swisher
Tervis Tumbler	Tropicana	ValPak-Cox Target Media Inc.
Ven-Tel Plastics		

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# Manufacturing Day in Florida



Organizational

Outreach

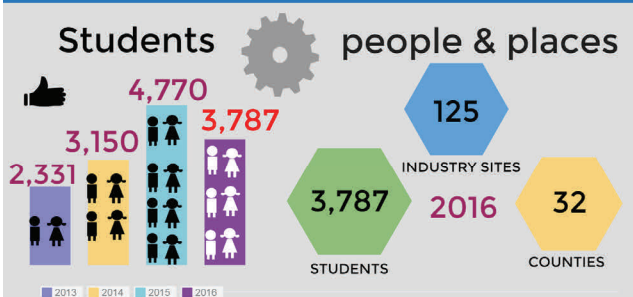
Curriculum

Professional Development



FLATE's **Manufacturing Day** strategy and cohesive partnerships with regional organizations across Florida has helped build an effective model in Florida that has, over the years, enabled greater involvement and statewide participation of industry and educational partners in MFG Day tours and events. The benefits of the coordinated individual events have been amplified significantly as all stakeholders stand to benefit from this large-scale coordinated activity. The student-centered activities have spawned new partnerships, supported increased public awareness and publicity, and initiated statewide, shared celebrations of manufacturing. More information about MFG Day and FLATE's strategy are outlined at: <http://madeinflorida.org/manufacturing-day>

## 2016 MFG DAY in Florida



**INDUSTRY HOSTS/GUIDES:** 100% stated that the tour was a good use of their company time and resources. "anytime we can show students the modern face of manufacturing it strengthens our future."

**TEACHERS/PARENTS:** 100% agreed the tour helped them understand high-tech jobs and careers available in Florida.

### STUDENTS:

- Nearly 92% of students stated the tour helped them understand how STEM subjects are applied in advanced manufacturing industries.
- Approximately 97% of surveyed students stated they would recommend other students have the same opportunity of this tour.
- Nearly 97% said that the tour gave them new information about careers in advanced manufacturing.



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# National Manufacturing Day



Organizational

Outreach

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Professional Development



Manufacturing MONTH Proclamation  
State of Florida



Manufacturing DAY  
Proclamation—Hillsborough County

Manufacturing Month drew community-wide support with a number of events scheduled throughout October.

Gov. Rick Scott issued a statewide proclamation recognizing October 2016 as Manufacturing Month.

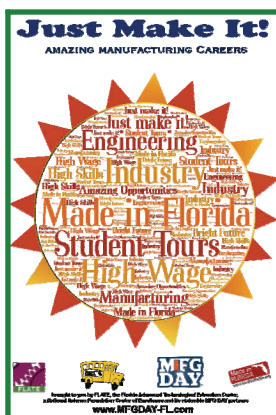
Hillsborough and Pinellas counties each issued countywide MFG Day/Month proclamations. The City of Clearwater, Pinellas Park and St. Petersburg, FL, also each issued proclamations, with similar proclamations issued by cities and communities across the state. MFG

Month events also included panel discussions featuring area manufacturers and Chambers of Commerce events, open house events at community and technical colleges and association events.

More information about the events are posted at [www.mfgday-fl.com](http://www.mfgday-fl.com)

## 2016 Manufacturing Day/Month EVENTS

- Upper Tampa Bay Manufacturers Awards Dinner
- Suncoast Technical College Open House
- Roboticon at USF Sundome
- Afternoon with an Astronaut at the Museum of Science & Industry
- FloridaMakes' free webinar for Manufacturers *Women in MFG* Movie & Discussion
- Manufacturers Association of Central Florida: 25th Anniversary, Annual President's Dinner and Manufacturing Awards Ceremony
- MFG Run, Walk, Paddle hosted by Master-Cut Tools
- STEM Festival at St. Petersburg College's Clearwater Campus



## Regional Manufacturing Day Partners



This activity supports FLATE's goal to provide an effective outreach platform.

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# Made in Florida

## Industry, Educators and Students

Connecting Manufacturing Excellence since 2004



[www.etdegree.org](http://www.etdegree.org)



[www.fl-ate.org](http://www.fl-ate.org)



[www.madeinflorida.org](http://www.madeinflorida.org)



[www.flate.pbworks.com](http://www.flate.pbworks.com)

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