



“Made in Florida” Industry Tours: A Statewide Initiative for Manufacturing Day in Florida

Let's go!



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FLATE

Florida Advanced Technological Education Center of Excellence

2014 ASEE

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NSF Advanced Technological Education

ATECENTERS



www.atecenters.org

***Partners with Industry
for a New American Workforce***



FLATE

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2014 ASEE

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FLATE 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.

Impact locally. Lead nationally.

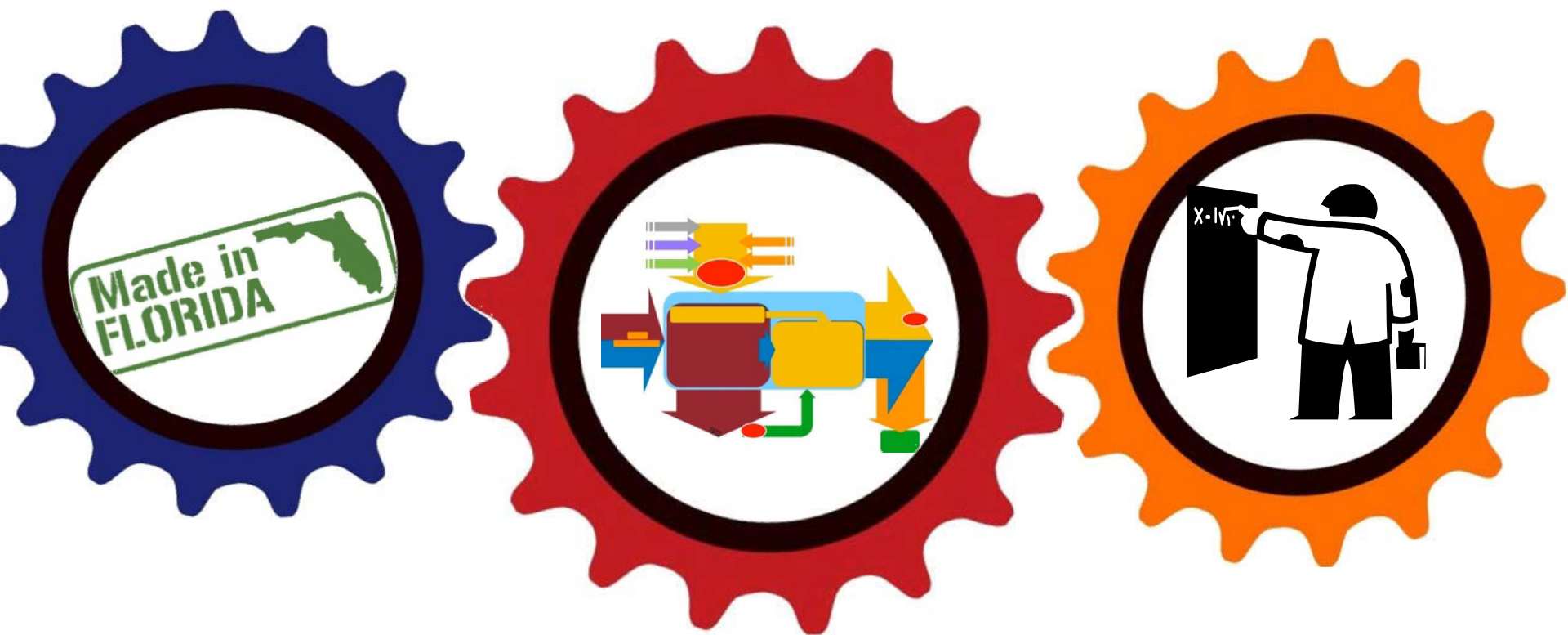


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Tell Teach Train
 Advancing Excellence in Engineering Technologies



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2014 ASEE



3,917 students
52 schools
185 events
75 manufacturing facilities

how
who
what
where
why



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how

organized processes

who

**high & middle school students,
educators, parents**

what

facilitated manufacturing tours

where

Florida modern manufacturers

why

real, relevant, rigorous



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how



before.. during...after



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getting ready

match school program & company

accommodate schedules

high and/or middle school

high tech accessible

related to courses

company host rules

kid friendly

eye candy

add fun

how?



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PREP...before you go

I. students and teachers

II. logistics & arrangements



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PREP...

learn

www.flate.pbwiki.com



FLATE's Pre and Post Tour Lesson Plan to Enhance Students' Experience
Visiting High Tech Manufacturing Facilities
(condensed version) The complete lesson plan is located at <http://flate.pbwiki.com>



NATURE OF CHALLENGE:

Students will learn about the company they will be visiting

TARGETED SUBJECT AREA/S

Career planning, STEM connections, technology integration

LEARNING OBJECTIVES – The Students Will...

1. Become aware of possible career interests in high tech manufacturing
2. Identify STEM education and skills needed to obtain these careers
3. Learn how to behave in a professional environment

Part A - Pre-Activity Questions:

Explore the website of the company you will be visiting and respond to the following:

1. What is the name of the company you will be visiting?
2. What products do they make?
3. Write 1-2 paragraphs about the company.
4. Describe job opportunities within the company and find out about educational and skills requirements for the job. Which STEM subjects help you prepare for this now?

Part B - Engineer's Report: Questions

Write 2-3 questions you would like to know about the company you are going to visit. After visiting the company complete an engineer's report.

Part C - Engineer's Report: Post Activity Observations

1. List the name of the company you visited and the job you shadowed.
2. Write a brief 1-2 paragraph description of what you learned about the company.
3. Describe three jobs you saw employees perform in the company tour.
4. How does that job use science, technology, engineering and math?
5. Plan out the education and career pathway you would need to take from this point, in order to be prepared for working in one of the jobs you described in number 3.
6. Reflect: List a few positive and negative aspects of the company you visited.
7. Reflect: How has technology changed this company?
8. Reflect: How has the economy changed this company?
9. Predict: What are some future challenges this company might face?
10. Predict: Do you see yourself in this career field? Why or why not?

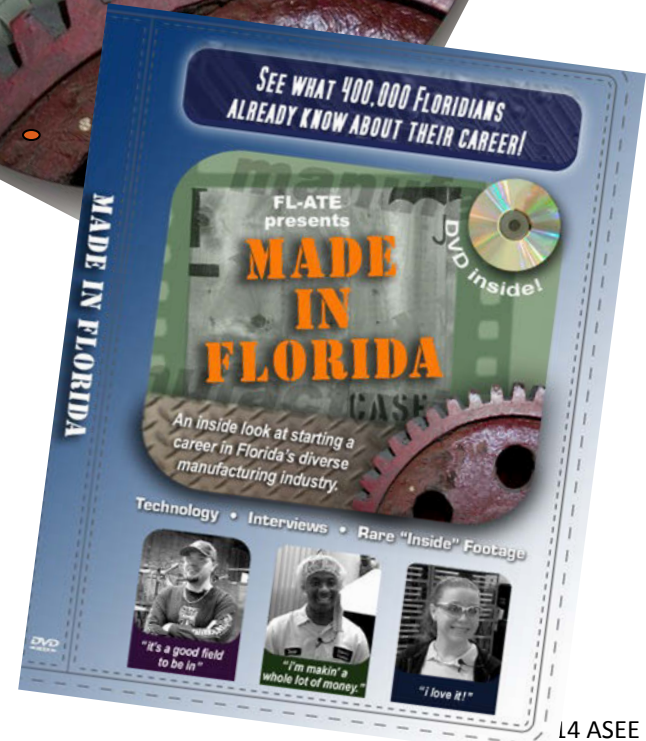


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PREP...



learn



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PREP.....plan

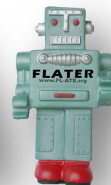
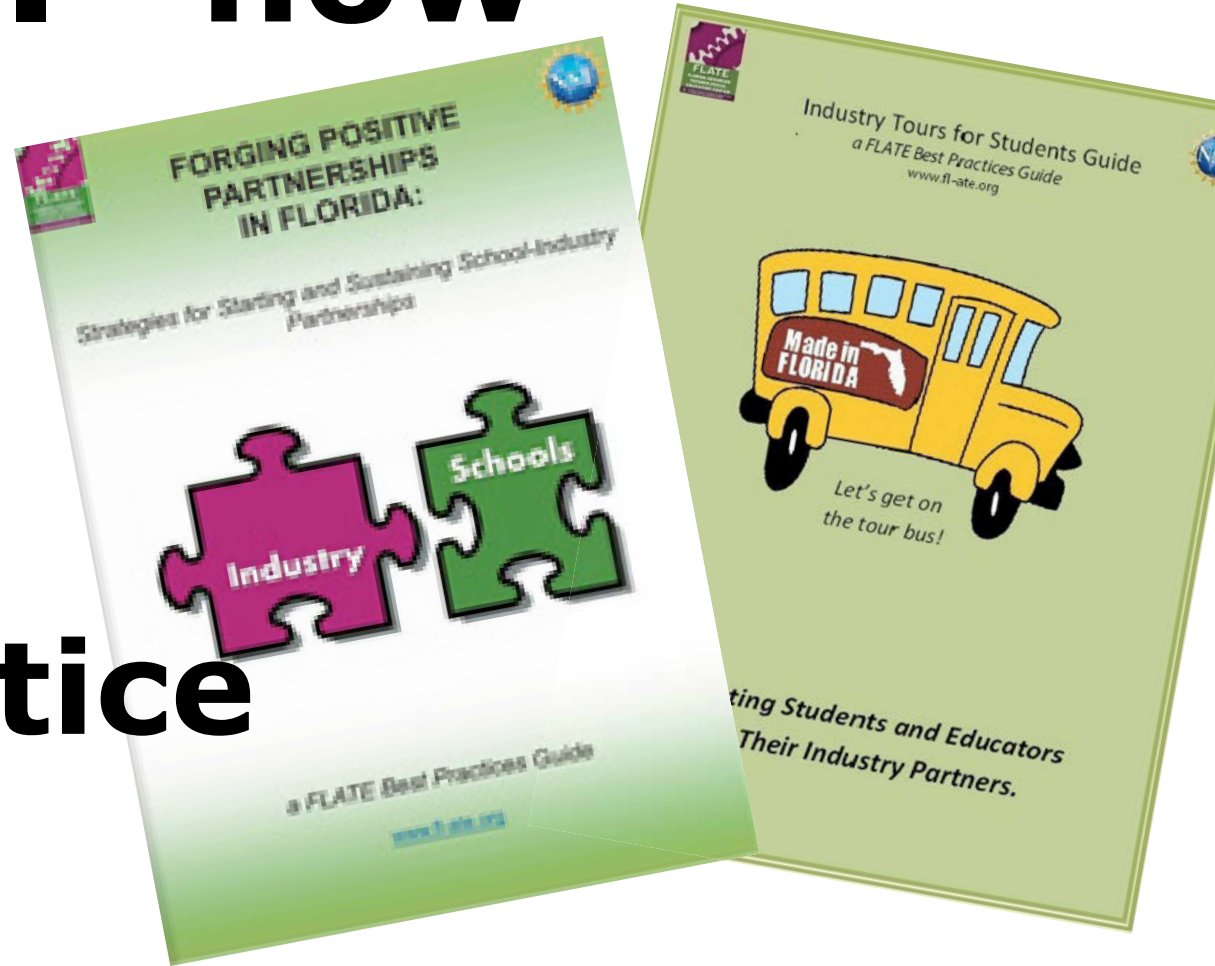
1 class	➔	1 company
1 class	➔	multiple companies
many classes	➔	1 company
home school	➔	students/parents
many classes	➔	multiple companies



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HELP..... "how"

FLATE Best Practice Guides



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HELP..... "how"

FLATE Tour Resources

FLATE
Lead Locally.
Impact
Nationally.

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

www.
Made in
FLORIDA
.org

(CLICK ON IMAGES BELOW)

"Made in Florida" and STEM Lesson Plans  For Middle & High School	Career Education Resources 	Modules for Advanced Technological Education 	The Toothpick Factory  A Simulating Game for Soft Skills
Industry Tour Resources  Find pre-tour lesson plans, post-tour surveys, presentations and other resources for your Made in Florida manufacturing tour!	Recruiting all GIRLS who love S.T.E.M.!  Resources and materials for STEM GIRLS!	FLATE Presentations  Find conference and workshop slides here.	High School Technology Initiative  Modules for high school sciences that teach fundamental STEM concepts.
Read FLATE's monthly Newsletter!  Connecting Manufacturers, Educators & Students with Florida's Workforce		FLDOE Career Resources  Learning today - Working tomorrow	



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HELP..... "how"


Industry Tour Resource Page

<http://flate.pbworks.com> – click on the school bus to access this page.

VIEW
EDIT

☆ MIF Industry Tour Resources

last edited by Pedro Colon 1 minute ago



Industry Tour Resource Page

Welcome to FLATE's "Made in Florida"

Below are some resources to make a student tour of a manufacturing facility a rich experience for the students, teachers and mentors/chaperones.

Pre and/or Post Tour

Lesson plans and Student handouts:
Downloadable material for educators to use before and/or after tours.

Pre and/or Post Tour

Links to other Online Resources:
Manufacturing resources for educators to use before and/or after tours.

ATTENTION

It is very important for data collection purposes that all submitted student survey packets be accompanied by a completed cover sheet.

Links to Tour Surveys and Resource sites:
Post tour STUDENT survey (pdf to download and print)
Cover sheet for Industry Tours (pdf to download and print)
Post tour TEACHER & PARENT survey ("online survey")
Post tour INDUSTRY HOST survey ("online survey")
Lesson Plans and Student Handouts to Download:
(Lesson Plan ideas to prepare students before or review after a tour):
Pre-and/or post industry tour Teacher Lesson Plan
Student handout for Industry tour Lesson
Manufacturing Scavenger Hunt activity lesson plan
2013 Job Journey for Modern Manufacturing
What is Manufacturing?
(Handout on the manufacturing process & sectors)
Links to other Online Resources to Support Educational Industry Tours:
Link to FLATE's Best Practice Guide for Middle & High School Field Trips/Tours to Manufacturing Facilities
FLATE's Industry Tour webpage
Streaming "Made in Florida" video
Link to "Made in Florida- Great Careers" PowerPoint presentation (2 versions: 1 with Speaker Notes)

Post Tour

Student survey:
Download and print (1) one for each student on the tour.
Cover sheet for Industry Tours:
Download and print (1) one cover sheet for each tour group.

Post Tour

Links to post tour online surveys:
Email these links to all industry tour hosts, educators, and chaperones to be completed after the tour.



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where?

BAE Shipyards

Bauer

Coastal Caisson

Conimar

Tampa Armature Works

E-One

Engler EI

Featherlite Coaches

Mitsubishi Power Systems

Southern Manufacturing
Technology

SPX Fluid Routing Solutions

Karb Manufacturing

Lockheed Martin

Mitre

Jabil

Nielsen

Pall Aeropower

PGT Windows

Pharmaworks

Plasmatherm

Publix Dairy

Signature Brands

emi

Sun Hydraulics

Townley
Manufacturing

Valpak

Ventel Plastics

Vulcan Machines

Alessi Bakeries

PGT

Honeywell



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survey says...

- ✓ **strongly agree**
- ✓ **agree**
- ✓ **neutral**
- ✓ **disagree**
- ✓ **strongly disagree**



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survey says...

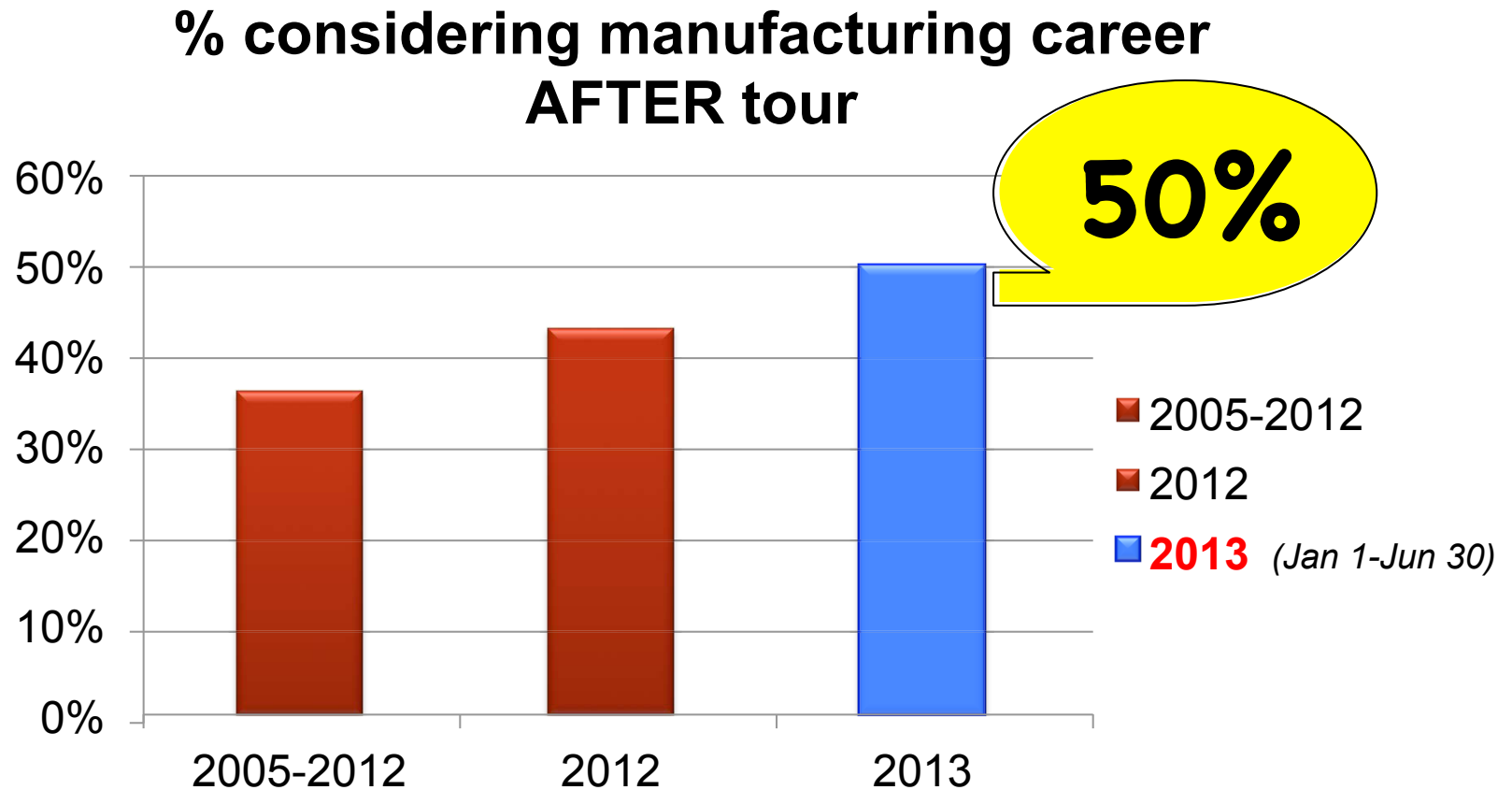
“I am now considering a career in manufacturing or related technical industries”

when	n (students)	strongly agree/ agree	relative to cummulative
2012	335	43%	+7%
2005-2012	2,292	36%	



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what they say...



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what's next?

- Get more partners involved
- Improve survey instruments
- Monitor data trends frequently
- Incorporate tours into other events
- Continue to share best practices and our models
- Work more closely with teachers before/after tours
- Survey teachers and parents accompanying students
- Survey company tour hosts
- Explore strategies to better connect tour experiences to college and career pathways



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ta ta!



**MEG
DAY™**



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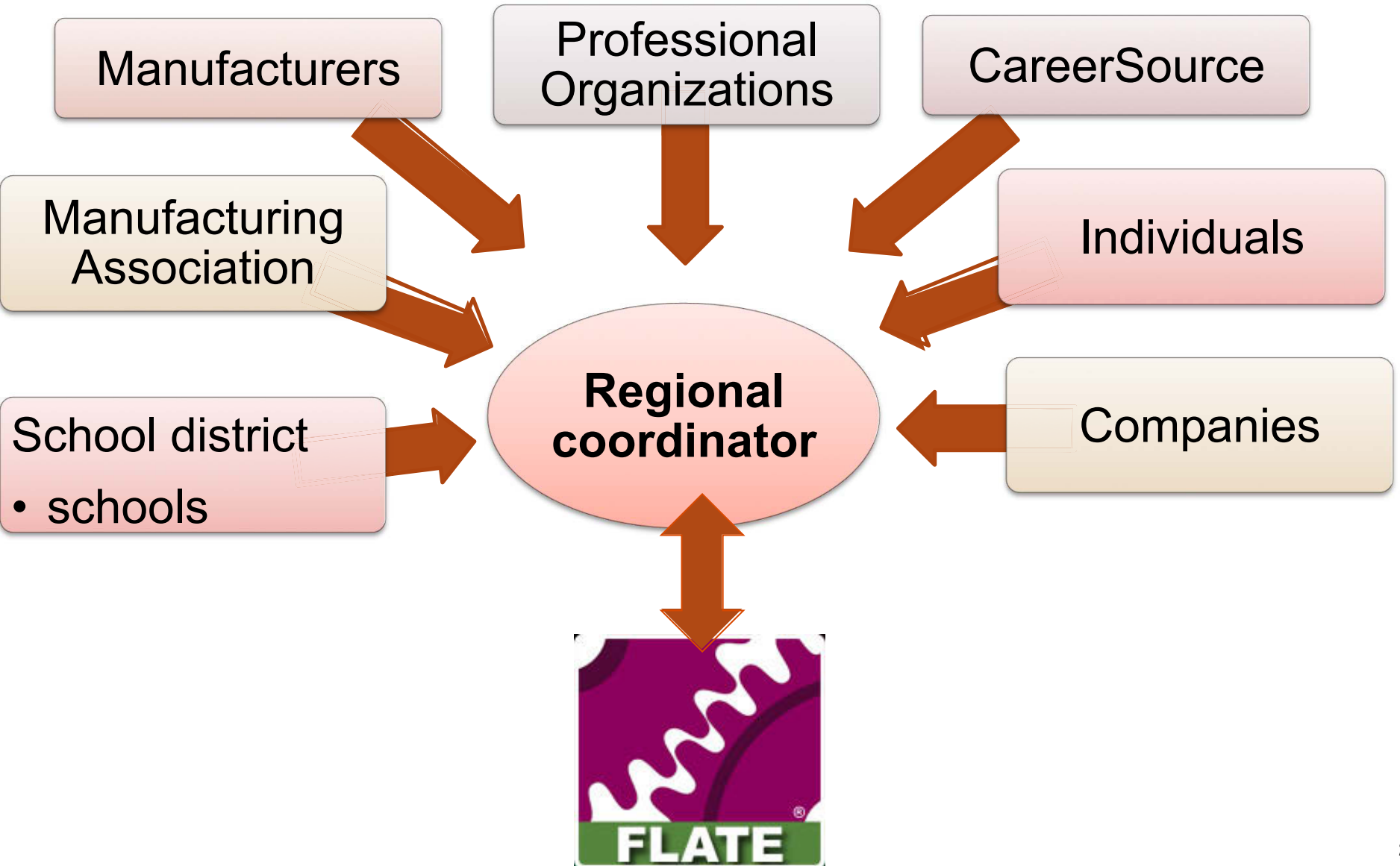
goals

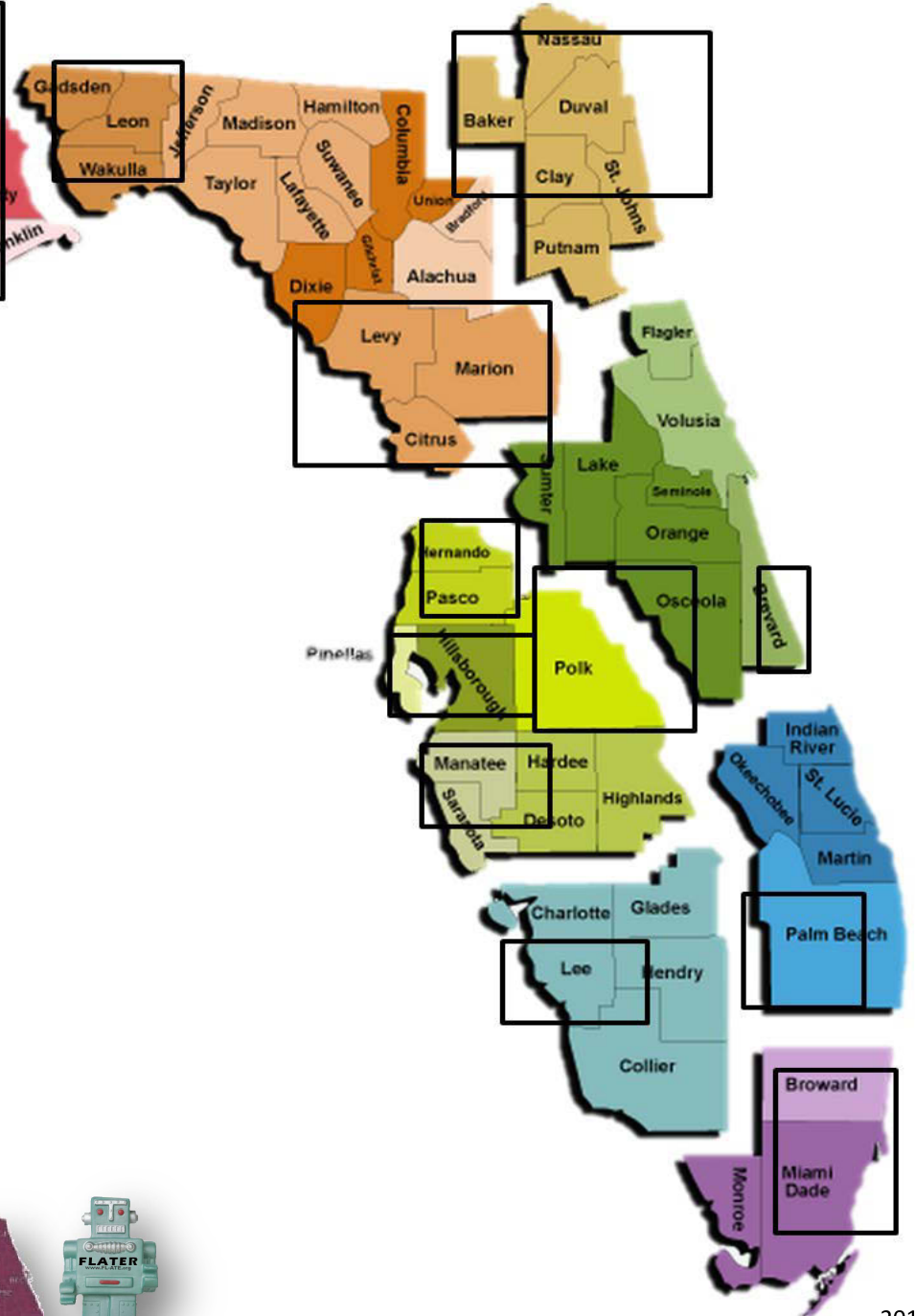
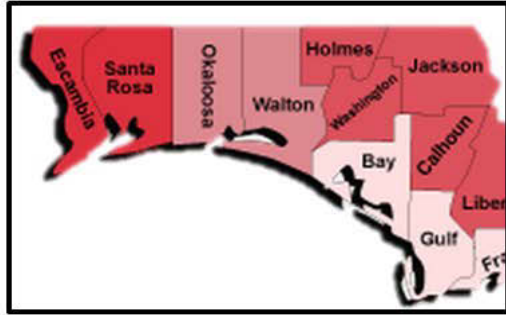
Awareness
Appreciation
Anticipation



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organize





MEG DAY

10.04.13 *in*
FLORIDA!



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MEG DAY

10.04.13 *in*
FLORIDA!

regional teams
local proclamations
state proclamation
tours
student t-shirts
pre/post lesson plans
pizza/lunch
student surveys
tour host surveys
educator surveys
adopt-a-school
certificates for hosts
press
survey reports
website



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tours

T-shirts

lunches

proclamations

curriculum

press

...the numbers

Florida Statewide Totals*

23 Counties participated

2,307 students

1,175 student surveys returned

110 teachers

66 parents

67 Florida schools

225 employees from **71**

manufacturers & colleges

>\$30,000 in kind and cash support

**events that partnered with FLATE*



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...the numbers



Based on **1,175** individual responses, student interest in advanced manufacturing careers **increased by 32.8%** statewide.



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...what they said

"Liked learning about what the robots did. I also enjoyed watching the robots work, and how almost the entire factory was automated. A lot of the robots worked without people controlling or watching them."

Yes, it is not often you get the opportunity to have the full attention of 24 students in your facility

"It was really cool and interesting, and provided a unique experience."

Absolutely! 2 main things: Good team building exercise in planning and preparation and growth opportunity for new engineers to be in front of an audience to explain our product

We appreciate the opportunity to expose youth in our community to the career opportunities available at xxxx,



JOIN US
and

**MEG
DAY™**

celebrate! 10.03.14
in
FLORIDA!



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Thank you!



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***Find this presentation on FLATE's wiki:*

<http://flate.pbworks.com/w/page/51765115/FLATE%20presentations>



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