Category 1 – Leadership
Sterling Challenge Response –2016

Category 1 Question	Strengths
1.1	
1. How do senior leaders set your organization's vision and values?	Values and vision are established by the Leadership Team. Communication methods includes a monthly Leadership Team meeting, summary reports to the Industry Advisory Committee (IAC), an annual report to the National Visiting Committee (NVC), weekly team meetings, a newsletter, and multiple web pages. As an integral part of the culture, Senior Leaders collectively support consensus decisions, despite possible differing personal points of view. Leadership commitment is shown by example of the Senior Leaders' actions in follow-up to Leadership Team meetings. Vision and values are promoted through the web site, and in all meeting agendas. Validation of Vision and Mission is accomplished biannually at the start of the 3 phase evaluation cycle. As an improvement now, all FLATE presentations at conferences and such, begin within with vision, mission, and goals. At every presentation, IAC meetings, NVC meetings, Vision and Values and mission are deployed and re-communicated to stakeholders. The vision, values, and mission are now culturally and procedurally embedded. FLATE "elevator speech" cards, with the vision, values, and mission have been created and distributed to stakeholders and in outreach activities. Data summaries are systematically reviewed with the team members, at leadership meetings, and at IAC and NVC meetings. FLATE performance and commitment to values, vision, and mission has been recognized nationally at the National Science Foundation (NSF) ATE conferences. As an example of commitment, FLATE identified a need for greater outreach to industry, through feedback from several sources including the stakeholder surveys. The Leadership Team reviewed the survey data and established actions in response. The response included press releases published in manufacturer association newsletters and websites, and greater outreach to regional manufacturer associations. Partnerships are sought that align with FLATE Vision and Mission and extend into the stakeholder group. Stakeholders in new areas are invited to participate in FLATE meetings such as IAC and NVC, and to expand outreach to more stakeholder perspectives. FLATE Values are represented by Guiding Principles/Questions used for screening whether new projects should be selected ad or new activities should be undertaken.

2. How do Senior Leaders' actions demonstrate their commitment to legal and ethical behavior?	Guidelines and training are provided by the host facility, are deployed, and enforced. The Leadership team demonstrates desired behavior and sets an example. Ethical behavior is explicitly stated in the guiding principles. Leadership has developed an ethics statement and deployed it to team members, as well as other stakeholders through the website. The ethics statement is incorporated into organizational values. The culture of FLATE is reinforced by Senior Leaders, based on their ethical codes of conduct prevalent in the engineering profession, by the example of the Senior Leaders who project exemplary ethical behavior on the team members. Background checks are conducted, as well as in depth interviews with prospective new hires, based on host organizational procedures. FLATE has developed a statement of ethical expectations for FLATE employees, volunteers, and stakeholders, to further nurture an environment conducive to ethical and legal behavior. The host facility guides a system of checks and balances, and ethical and legal behavior are encouraged. Expectations for employee conduct are written into the Employee Handbook available on the HCC intranet. College policy requires awareness and signed statements, adopted college protocols for volunteers in the school environment.

3. How do Senior Leaders' actions build an organization that is successful now and in the future?	Setting the culture of improvement and addressing to meet customer and stakeholders' needs, data acquired through surveys and other feedback vehicles. Leaders created the FLATE organization to fill a void in management and alignment in manufacturing related education. Use of guiding principles to establish partnerships to build sustainability of FLATE missions and activities (beyond the life of the grant) and assure continued execution of the mission. Examples include organizations directly involved as partners, such as FACTE for the FLATE awards, FloridaMakes for MFG Day, founding member of the Tampa Bay STEM Ecosystem, and many colleges with respect to sustainability of the ET Degree program which is a model for the rest of the state and nationally.

4. How do Senior leaders communicate with and engage the entire workforce and key customers?	Feedback is solicited at meetings, through the agenda, actively through emails, and at other venues, through multiple surveys regarding stakeholders, and one on one solicitations. Adobe connect is used at meetings when appropriate to facilitate involvement of distant stakeholders and volunteers. Communication methods include those described earlier, plus Principal Investigator (ATE/PI) Meetings, the Made-in-Florida program, weekly team meetings, the web site, the *FLATE Focus* newsletter, NSF ATE Centers joint exhibits, *Florida Trend's NEXT* magazine promotion, bi-monthly MAF Board Meetings, MAF advisory committee meetings, the FLATER Blog, the semi-annual ET Forum, and various workshops and presentations. Additionally, news alerts are published on a regular basis to selected audiences to highlight certain events at FLATE and FLATE-related activities. Activity over the last 4 years has further developed relationships with state and regional manufacturers associations (RMAs) around the state. For instance, IAC and NVC venues around the state, have further expanded effectiveness of FLATE communication around the state with volunteers and stakeholders (e.g. with Bi-annual Stakeholder survey). Workforce members (employees and volunteers) participate and represent FLATE through a number of venues, such as presentation at other organization events, and in newsletter articles, RMA meetings, industry meetings, and community college presentations. Before presentations, employees review and modify with leadership, the content of the presentation to assure alignment with FLATE direction and to be sure the relevant points are made. The FLATE culture encourages solicitation of and giving feedback and input. The use of a number of two-way tools encourages communication. Every interaction with partners is interactive, and is built into meeting agendas. Additional extension of FLATE communications is facilitated through MAF newsletter articles, RMA meetings and newsletters, and communications through the RMA networks. Best Practice Booklets, developed by FLATE, are published and distributed to enhance partnerships with the RMAs supporting their activities and their members. FLATE network communications are further enhanced with College partners through common promotional materials, regular meetings of the ET Forum, access to interactive web sites, and more. Recognition by leaders includes informal recognition for team members, such as lunches or compensatory time for extra work. FLATE leadership focuses the team members on actions related to goals and objectives as defined in the Evaluation Plan. FLATE Industry and Educator awards target volunteers and stakeholders who are active and supportive of the FLATE Mission, in their daily activities. Recognition is also made and publicized on the web site and through the Industry Honor Roll. FLATE Leadership has direct involvement in nominating FLATE team members and stakeholders to independent award solicitations, such as Educator of the Year award, Tampa bay Technology Forum award, FACC award, High Tech award for curriculum, the FLATE educator and Industry representatives of the year, MAF awards, internal host awards, and more. The FLATE-developed, Toothpick Factory training workshop received a nationally recognized award. Awards apply in all key organizational objective areas, i.e. curriculum, outreach, and professional development.

	FLATE team members are eligible for and are recognized through the host organization rewards system, as well as by other local and regional community organizations (e.g. a local Sarasota-area STEM-relayed foundation). Data are collected according to effectiveness measures identified in the Evaluation Plan (e.g. event evaluations, attendance, etc.) These data are reviewed as collected. Data are reviewed by exception with team members at weekly meetings, and at monthly Leadership Team meetings. Annually, the Leadership team reviews and updates each FLATE objective. In leadership teams and in team meetings, and IAC and NVC meetings, data are reviewed and used to identify gaps in performance of processes and systems, and to define the expectations of activities. Based on these data, actions are assigned in the meetings and tracked and monitored through accomplishment. A Tracking Chart is used for paid team members to track their professional development. Staff professional development is encouraged by leadership.
5. How do Senior Leaders create a focus on action that will achieve the organization's mission?	FLATE has established Goal 1, with objectives and effectiveness measures focused on the sustainability of the FLATE mission beyond FLATE's grant period. Leadership understands the requirement to institutionalize activities that are effective in sustaining the FLATE mission after grant expiration. An example aligned perfectly with FLATE mission, includes partnering with FloridaMakes and many RMAs, as well as colleges and schools to engage and sustain MFG Day activities and outreach. As another example of sustainability of mission, FLATE moved student tour activities into a shared funding model, including Manufacturing Day activities. In this effort, FLATE built and supported educational and manufacturing communities in direct backing of Manufacturing Day activities without direct funding from FLATE; partnerships were built between industry, the community, and schools. Similarly, professional development activity is sustainable as it continues through the ET Forum. An element of FLATE sustainability includes annually building strategies and objectives and activities developed through the annual Evaluation cycle, and particularly, the development of a specific strategic goal relating to

sustainability. The annual plan includes other activities and objectives for long-term sustainability, also supported by the current budget. Although the total operational budget may shrink, sustainability continues to be related to the core vision and mission, and skills and competencies.

FLATE has been recognized as the entity trusted to guide effective use of State educational funding. The State of Florida Department of Education (DOE) has designated FLATE in legislation. In the Florida Energy Systems Consortium (FESC Legislation FLATE represents assurances that the State investment in research technologies are effectively transferred to workforce development.

The system in place for development of strategy and objectives includes a feedback review of data and information, then analysis of the same, followed by action planning, and modifications based on the input.

Annual evaluations of team members are conducted. Personal and Professional goals are established in dialogue with the supervisor. Additionally, individual work needs are identified, such as equipment and tools required, or personal and professional development needs, or both, in order to be more capable of accomplishing FLATE goals. Customer and stakeholder focus are continually reinforced through the culture as well as activities involving team members directed at stakeholders around the state.

Skill sets are identified and documented for team members and the Leadership Team.

Critiques using surveys of participants in major events, such as the ET Forum and IAC activities, are conducted to identify opportunities to make them more effective.

Surveys of customers, partners, and stakeholders are regularly reviewed for actionable information. Discussions are conducted in the Leadership team and with team members regarding actions to make improvements, as well as how best to analyze the data, through the professional development outcomes survey and stakeholder survey. Other examples of surveys conducted include those of organizations conducting plant tours. This survey and results are continually reviewed for improvement. For example, changing question positions in the survey resulted in more usable information from the respondents. The FLATE newsletter is also followed up to encourage and generate more readership by asking readers to relay and retransmit the newsletters to their colleagues. This provides better and more impactful data to guide the organization.

A senior staff member is assigned to lead projects. Action is mandated through communication within the workforce, usually documented in emails and staff notes, which describe responsibilities and tasks to accomplish each project.

1.2	
1. How does your organization ensure responsible governance?	External audits in financial and management areas are and continue to be conducted by the National Science Foundation (NSF)- hired third party auditors and the host organization (Hillsborough Community College - HCC). Monthly internal audits are also conducted as a budget item to reconcile HCC accounting records with FLATE's budget. A formal internal and external review and approval process exists for multi-level approval of expenditures. Management accountability comes through oversight by the NVC in annual reviews, supplemented by several annual report mechanisms [NVC, Western Michigan University, Annual NSF report, Annual Evaluation report, interactions with NSF program managers at the Annual Principal Investigators (PI) Meeting], as well as monthly Leadership Team meetings. The IAC assists in setting direction and guidelines for management.
	FLATE interacts with and solicits stakeholders by responding to their needs regarding curriculum, professional development, and outreach. The FLATE Leadership Team has established Guiding Principles to direct activity which inherently protects stakeholder interests.
	Transparency is accomplished through the publication of FLATE activities and performance through the website, and disclosures of activity at meetings with the NVC and IAC. Transparency is further enhanced by leadership meeting minutes and actions distributed and posted in the common/shared drive. The *FLATE FOCUS* newsletter and news alerts are issued with organizational news and information.

2. How do you evaluate the performance of your Senior Leaders, including the chief executive, and your governance board?	The Executive Director has an immediate administrative supervisor in the host facility responsible for evaluation based on fulfilling the FLATE goals. The annual NVC review is essentially an operational performance evaluation of FLATE, which reflects on the performance of the Executive Director and co-PIs. NSF has ultimate oversight responsibility for performance of senior leaders. Furthermore, the Annual Evaluation Report judges performance of FLATE against Strategic objectives. To some extent, the Western Michigan annual survey also provides perspective on FLATE and Executive Director performance in comparison to the aggregate ATE community. Input from these reviews is provided to NSF and to the administrative supervisor for consideration in evaluation. NSF has ultimate evaluative authority over the NVC governing Board. NSF constructs the NVC with input from the FLATE organization.

| 3. How do you anticipate and address public concerns with your products and services and operations? | In order to anticipate and address public concerns with:
-Curriculum development – FLATE aligns curriculum to state and national education standards as well as nationally recognized industry standards and certifications. In addressing risk of potential adverse impact of curriculum not meeting the needs of industry, FLATE reviews the offerings of the adoptive colleges and reviews Engineering Technology (ET) curriculum regularly. Feedback about curriculum and alignment are actively discussed at the ET Forum, curriculum framework reviews, detailed interaction with faculty about what they are teaching, MSSC validation, and interaction at an annual meeting with four- year schools that articulate the degree. Changes are developed and implemented and professional development is offered to fill gaps.
-Professional development – FLATE matches the subject matter and the expert instructor to meet the stated needs and collect feedback on all professional development activities and events for faculty.
-Outreach – FLATE collects and analyzes trends and stakeholder needs to accurately guide promotion of manufacturing career opportunities. Requirements in authorizing and conducting student tours have become more stringent, to improve security and safety. In response, FLATE has developed a series of Best Practice booklets for tours and other outreach activities. This ensure that important activities are performed systematically and sustained, as well as to promote and provide services for stakeholders. A college-wide Institutional Review Board (IRB), initiated by FLATE in anticipation of need, is now in place at HCC to review and approve all non-exempt FLATE procedures and processes that involve human interactions. Additionally, the FLATE grant proposal has been reviewed by the IRB, which validated that FLATE procedures and processes do not negatively impact individuals. |

4. How do you promote and ensure ethical behavior throughout your organization and in all interactions?	As discussed in 1.1.2 above, ethical considerations are integrated into the Employee Handbook, and the FLATE Guiding Principles, which are the primary guide for employee decision-making. The organization has identified a "Safe-Harbor" to ensure a safe venue for individuals to talk about issues that may be considered unethical or illegal.

5. How do you consider societal well-being and benefit as part of your strategy and daily operations?	Consideration of societal well-being is an implicit demand of FLATE's existence and an integral part of its purpose. FLATE's contribution to the economic systems of Florida are also reflected in its mission. Demonstrated actions include: development of the statewide ET AS degree program; outreach supporting the enhancement of the manufacturing industry contribution to society and the overall economy; giving direct testimony to the Florida legislature in support of Statewide manufacturing and education initiatives; and direct input to the Florida DOE curriculum development and implementation activity. Partnerships are established with professional organizations, with the IAC members, the ET Forum members, FloridaMakes, MSSC, and through events with individual manufacturers or educational institutions, like MFG Day support and participation. Additional examples are through the development of curriculum for distribution to community colleges, high schools, and technical schools. Partnerships are also developed with the Florida DOE, Career Source Florida (formerly Workforce Florida, and regional economic development organizations to jointly identify and support stakeholder needs. FLATE provides resources (funds, travel) I for faculty professional development, and career outreach for students. Recognition for partners is provided through the Annual Awards system, press items, and the *FLATE Hero* program, on the FLATE website.
6. How do you actively support and strengthen your key communities?	Key communities include the students and their parents, the Florida Department of Education, the CTE educational community at large, and the manufacturing industry. FLATE initiates review and implementation of activities and programs through encouragement and support of partners in seeking support from NSF for funding of programs for training and education of technicians. For colleges: We mentor and provide assistance for external funding, support their programs, and provide prof development for faculty. Asist colleges in interactions and engagement with regional manufacturer associations and regional partners. For DOE: We provide consulting and advice as the subject matter expert in manufacturing and engineering technology education. We facilitate college interactions with the FLDOE and the frameworks content. For Manufacturing: We are key source for public awareness of manufacturing, skills, and benefits of the manufacturing industry to the community. We translate skill and knowledge needs into curriculum, programs and frameworks. Facilitate the processes for the skill sets identified by the manufacturers to the DOE for program development at the CC level; to match framework for CTE programs For students/parents: We facilitate and heighten awareness about high wage, high skill careers, strengthened skill sets, and emphasize pathways from middle school to careers in manufacturing. ADDED 8/16/16: As we are considered by many inside and outside the national ATE and technical education community, we are regularly asked to and provide bench mark opportunities for organizations wishing to emulate FLATE approaches and best practices. For example, the National Academy of Sciences recognized and used FLATE

	curriculum work stream methods as an excellent example of a mutli-career path example. Also MFG Day model of outreach sought out by FloridaMakes as a partner.

Category 2 – Strategic Planning
Sterling Challenge Response –2016

Category 2 Question	Strengths
2.1	
1. How do you conduct your strategic planning?	Grant proposals provide structure for strategic planning. Input to development of proposals is through direct and responsive interaction with stakeholders. The structure of the grant imposes a three- to five-year long-term planning horizon. Proposals are built in consideration of stakeholder needs that include industry technology trends, education and training trends, and educational delivery trends: regionally, nationally, and internationally. FLATE grant proposals consider a number of environmental factors and influences, including strengths and weaknesses, regulatory environment of the Department of Education and the specific college requirements, partner college requirements, National Science Foundation (NSF) objectives, and State and Federal law. Sustainability and the ability to execute the plan are integrated into the plan through allocation of resources and funding. Trend spotting has been added to the agenda for the monthly Leadership Team Meeting, and is incorporated into weekly FLATE team meetings. Trendspotting is intended to uncover potential new areas of importance to FLATE and to modify objectives and actions to address these areas. There are a number of sources of information and observation of approaches which FLATE incorporates into strategic discussions. These outside opportunities include: review of other NSF center activities, including the FLATE Director's participation in National Visiting Committee (NVC) and other boards throughout the NSF Advanced Technology in Education (ATE) network; wide ranging contacts with the educational network nationwide and overseas; Leadership Team input about technology trends, curriculum updates, and framework reviews. Participants in the strategic thinking process include the Leadership Team, three stakeholder colleges, the NSF program officer, and the NVC. There is a structured voice of stakeholder input in place through the biannual Stakeholder Survey, interaction with the Florida Department of Education (DOE), the NVC, the Industry Advisory Committee (IAC), participants in the semi-annual Engineering Technology (ET) Forum, professional organizations, and review of technology trends at leadership and team meetings. The evaluation process, integral to strategic planning, is annually cyclical, based on the short-term planning horizon of one year. It includes critical review by stakeholders. It establishes and evaluates FLATE goals and objectives, as well as measures linked to those goals and objectives for monitoring effectiveness. FLATE observes and addresses five-year trend data for enrollment and completion for its programs statewide and using national benchmarks.

	There is evidence of improvement in the planning process, improvement in the way FLATE leadership thinks strategically. For example, inclusion of trendspotting in meeting agendas, and broadening of stakeholder network to include international and national stakeholders.
	Output from the Strategic Planning process are the four goals and three workstreams. See figure 1.
	FLATE's work system consists of three work streams to enable the state and community colleges to produce a technically-educated workforce to meet manufacturing industry needs for that technical workforce. The work streams are Curriculum Development and Implementation, Outreach, and Professional Development. FLATE systematically uses its three explicit work systems and explicit work streams to strategically decide the priority for selecting which aspects of FLATE's mission to focus on for transferring or institutionalizing for sustainability.
2. How does your strategy development process stimulate and incorporate innovation?	FLATE principal funding agent, NSF, only focuses its resources on technical education innovation. Innovation is stimulated through ideas generated from the Stakeholder survey, direct interaction with manufacturers and associations, tracking and reviewing data and trendspotting, discussions and input from FLDOE, ET Forums, and various CTE professional groups, such as the FACTE partner. Feedback from these various sources are matched with Guiding Principles and integrated into the Strategic Planning process described in 1.2.1 above.
3. How do you collect and analyze relevant data and develop information for your strategic planning process?	Data and stakeholder provided information are essential in determining shifts in technology, customers and stakeholder needs, and the regulatory environment. These are identified through constant interaction with peers, stakeholders, and competitors in multiple venues, such as the annual Hi-Tech Conference, annual NSF Principal Investigators (PI) Advanced Technological Education (ATE) Conference, Industry Advisory Committee (IAC) member meetings, ET Forum, and with professional associations.
	Data are reviewed in NVC and IAC meetings for relevancy. These filtered data are analyzed and used to identify performance issues against targets. Established trends are addressed through discussion and action assignments at monthly Leadership meetings and weekly team meetings.
	The longer term issues are addressed and integrated into the annual planning cycle. For example, the issue of need for mechatronics training has been recognized, and expertise has been integrated to solve the introduction of mechatronics as an area of emphasis in new curriculum.
	The question of long-term sustainability of FLATE relates to long-term sustainability of its mission, since its life as an NSF-supported entity is finite. FLATE's strategic objectives include emphasis on sustainability as a separate goal. The Leadership Team regularly reviews its activities and the segments of FLATE's mission which are opportunities for seeking means to maintain sustainability.
	Strategic challenges include: achieving sustainability overall, achieving a continuous revenue stream; having a positive image perceived by industry and partners around the state; gaining their active participation in FLATE activities; growing the list of state colleges adopting and implementing FLATE-developed curriculum state-wide; and gaining broader statewide participation in Made-in-Florida outreach. The Leadership Team addresses challenges by adapting its strategies.

	Challenges are addressed by the Leadership Team in the development of concepts which are translated into the Strategic Plan and its objectives as needed. As an example, tour data indicated that tours were popular and impactful. Budget data showed FLATE can't sustain tours indefinitely, nor expand state-wide. In this case, stakeholder surveys identified potential plant-tour participants and financial partners. Consequently, due to partnerships developed and resources shared, in 2013, there were 75-100 tours conducted, none of which were financially supported directly by FLATE. There has been continued growth in this area and in 2015 over 150 tours were conducted state-wide without FLATE financial support. NSF-ATE requires sustainability but did not have a working pathway to accomplish that request. FLATE's strategic planning addressed this challenge, developed a sustainability tool with a defined plan that is now documented in NSF-ATE current Request for Proposals as an approved mechanism.
4. What are your organization's key strategic objectives and timetable for achieving them?	See response to question 1 above for process of planning. Objective timelines have been established, and are annually updated for feasibility, priority, and impact. The objectives and timetable for accomplishing are incorporated into the objectives timetable document. See the sample of the Timeline char. Complete timeline is available on site.
5. How do your strategic objectives achieve appropriate balance among varying and potentially competing organizational needs?	The leadership team and associates depend on effectiveness measures to judge the level of impact of activity elements. In our quest for continuous improvement, resources are adjusted to reflect results of measures and based on needs of stakeholders. As an example, financial support of student tours was known to be unsustainable in the long term while other needs existed. Therefore, through the planning process and use of the Guiding Principles, the leadership team recognized a need to leverage FLATE resources through statewide and regional partnerships and has balanced the level of direct FLATE financial support against other needs. To optimize program level activities against goals
2.2	
1. What are your key short- and longer-term action	The FLATE Leadership Team with staff team members develop specific action activities based on review of data for performance measures and identified gaps. These are assigned based on individual skills and experience and are followed up at the weekly team and project meetings, or by exception if and when more resources are needed to accomplish actions. Objectives for each goal, are action plans in themselves, delineating the tactical

plans? 2. How do you deploy your action plans?	activities required to accomplish each stated goal. Typically, activities are accomplished through a sequence of events designed to achieve the goals. For example, evaluating proposed curriculum is accomplished through focus groups and the ET Forum, and other events (short-term actions) and a working team to activate and implement the results (long-term). Resources are deployed based on how they affect the program level for each goal. Human and financial resource allocation is affected not only by federal guidelines relating to the grant award, but also weighting factors and decisions made by the Executive Director, in consultation with the Leadership Team.
3. How do you ensure that financial and other resources are available to support the achievement of your action plans while you meet current obligations?	Resource allocation is based on immediacy and time-sensitivity of each project. The implementation of the mechatronics curriculum is an example of how relevance enters this allocation decision. Objectives have appropriate measures (with data file locations identified). These are periodically reviewed by the Leadership Team and team members as well as the IAC and NVC annually. An example of resource allocation modification is the decision to end the annual promotion of the manufacturing advertorial in Florida Trend's NEXT magazine targeted to high school students. Data showed that the effectiveness of the advertorial in outreach to high school students was not measurable. Resources were directed to other areas where effort could translate more effectively into direct effort. This is another example of achieving appropriate balance as discussed in 2.1.5 above. Before undertaking new initiatives, all action plans are filtered through FLATE's Guiding Principles. If approved, FLATE allocates appropriate resources. FLATE uses and defines Effectiveness Measures to monitor progress against objectives. They are reviewed both for appropriateness of measures as well as progress. Action plans are changed as results of periodic reviews by the Leadership Team. Sustainability is one criteria element for judging action plan success. Long-term sustainability of FLATE mission follows NSF's concept of shifting ownership. The budget adheres to NSF guidelines. The budget also includes allocation of team members to support the planned activities and to achieve the strategic objectives. As described earlier regarding tour costs, part of this response is related to sustainability efforts to transfer management and financial responsibility to other institutions for segments of the mission. Funds may be reallocated as data indicate and action plans are modified.
4. What are your key workforce plans to support your short- and longer-term strategic	At the high level FLATE's workforce plans to support its objectives are encompassed in NSF's professional development work stream. For volunteers, we increase their capability to accomplish FLATE objectives, action plans, and mission through availability of resources and information on the websites and available through other means. For instance, support materials like presentations, handouts, brochures, and procedures are accessible by volunteers and staff. Faculty are also involved in specific professional development workshops and events. The staff professional development tracking chart is implemented to assure development of skills and capabilities in accomplishing FLATE objective's, reinforced in team weekly meetings.

objectives and action plans?	
5. What key performance measures or indicators do you use to track the achievement and effectiveness of your action plans?	FLATE is 100% committed to its Sterling approach to leadership, management, and improvement. Effectiveness measures are in place to track accomplishment of objectives. See FLATE Timeline chart.
6. For these key performance measures or indicators, what are your performance projections short- and longer-term?	FLATE's key long-term performance indicators and projections are noted. These projections are based on historic trends, tempered with input from community college stakeholders, input from manufacturers and other stakeholders, grant funding trends, and trendspotting in the marketplace. • Adoptive Colleges: 25 • Enrollment in the ET AS Degree program: 2000 current • Graduations from the ET AS Degree program: 200 annually • Mission elements sustained: Increase by 10 • Funding: Achievement of State and Federal funding • High School ET related programs with MSSC core: 12 • New technologies embedded in ET or a specialization: 4 more • Certificate articulations: 4 more
7. How do you establish and implement modified action plans if circumstances require a shift in plans and rapid	See response to Question above. FLATE reviews the objectives and timetables in Leadership Team meetings and staff team meetings. The need to modify plans are a primary indicator of a need to change plans. The approach to plan modification happens through the strategic planning process with the leadership team developing new or modified plans. In parallel activity, at weekly meetings, team members consider changes in the current situation, based on effectiveness measures and other feedback. The address the changes and develop new plans and/or take for action new plans developed by the leadership team. Project leaders have authority to respond to situations that may be more appropriately addresses rather than waiting for weekly or monthly meetings.

execution of new plans?	

Category 3 – Customer & Market Focus
Sterling Challenge Response – 2016

Category 3 Question	Strengths
3.1	
3.1.1. How do you listen to, interact with, and observe customers to obtain actionable information?	FLATE practices active listening with customers and stakeholders. There are a number of methods used, such as: survey of industry and stakeholders, reviewing statewide surveys including the biannual Stakeholder Survey, focus group results and published data, soliciting guidance from the Industry Advisory Committee (IAC) and National Visiting Committee (NVC), semi-annual FLATE workshops at the Engineering Technology (ET) Forum (a focus group format), professional and trade organizations, other customer focus groups, advisory committees consisting of members from various community and state colleges, and interaction with customers at public exhibits. Information is collected and analyzed for specific tasks or projects, then distilled through the Leadership Team meetings, exchanged at team members' meetings, and used as appropriate. To be aware of future needs, FLATE selects national sources to identify customer information that potentially will impact Florida. FLATE Event Reports are used to evaluate the effectiveness of the various elements of customer feedback and include action items, targeted follow-ups, and relevant data and contact information. Customer and stakeholder input is reviewed by the Leadership Team, FLATE Team members, the NVC and IAC; and shared with other stakeholders, to close the loop. FLATE uses survey results extensively to improve its products and services. FLATE surveys all groups it contacts, such as teachers at professional development workshops, students at plant tours, and ET Educators at FLATE workshops. To simplify the collection of customer information many surveys are conducted on line. Additionally, surveys are subject to continuous improvement and changes to surveys have included more standard questions across different types of surveys to provide feedback on common aspects of services.provided. New products and services developed are checked against organizational goals for alignment and put through the filter of the FLATE Guiding Principles to ensure alignment with objectives. Customer input is collected through the Stakeholder Survey, focus groups, and other informal means of communication. Customer support is provided directly by FLATE team members and volunteers as well as indirectly through users of FLATE curriculum frameworks and other products. Key customer support mechanisms include communication access through the FLATE and MIF websites, numerous tours and events, the semi-annual ET Forum, IAC and NVC meetings, as well as webinar based meetings, social media and news alerts, and the regular typical communication methods of email and telephone. Support materials are developed and made available to users of FLATE frameworks, professional development support

	materials and training sessions, and workshops and materials like the Toothpick Factory and professional development materials. The biannual Stakeholder Survey was initiated as a result of opportunities identified in previous Florida Sterling self-assessments. This is an example of a proactive approach undertaken to assure stakeholder expectations are identified and met.
	Links on websites have been added in many areas that can lead customers and stakeholders to the information they are seeking. This approach was undertaken in response to customer feedback from web site users seeking better ways to access FLATE information.
	Evidence of evaluation and improvement of access methods includes, evolving the FLATE FOCUS into a blog format, integrated with other social media tools.
3.1.2. How do you listen to potential customers to obtain actionable information?	Information acquired from various sources initiate interactions with potential customers and stakeholders. For instance, state data suggests that underserved student populations require FLATE attention. As a result, FLATE had direct interactions with Lake Sumter State College, in a geographically underserved region, to identify their needs. Consequently, Lake Sumter State College adopted the ET degree program and established a new to the state, Energy Distribution specialization.
	In this vein, FLATE uses the approaches described above to access needs of potential customers and stakeholders who interact on the fringes of current services, or who have limited exposure to FLATE.
3.1.3. How do you determine customer satisfaction, dissatisfaction, and engagement?	A biannual Stakeholder Survey is conducted to collect information and feedback relating to customer and stakeholder satisfaction. Satisfaction surveys are conducted at every MIF tour (both industry host and student/teacher participants) and at other FLATE and partner student experiences. Partner organizations also use the FLATE tour survey instrument to collect and aggregate input. Other means of satisfaction determination include those methods described in Item 1 above.
	Customer loyalty is demonstrated by repeat support for FLATE activities and participation by individuals from the various segments of stakeholders. Loyalty and engagement are also determined by event survey questions, and indicated by active participation in events, committees, and other FLATE activities. For example, in determining engagement, we track involvement such as, the numbers of participants and events in MFG Day activities, readership of FLATE Focus, visits to the FLATE and MIF webpages.
3.1.4. How do you obtain information on customers' satisfaction with your organization relative to other organizations?	FLATE seeks data regarding the effectiveness of other organizations with similar products. The similar products to be compared are principally the two-year technical degree programs in the state of Florida. One source of data for these comparisons is the Florida DOE. For instance, we look at the approved technical frameworks statewide and whether they are capable of placing program completers into employment, thereby meeting industry needs. Additionally, we collect and compare program enrollment data from FL DOE, with other similar program enrollment to determine effectiveness in the eyes of customers and stakeholders.

3.2	
3.2.1. How do you determine product and service offerings?	Service and product offerings are primarily determined by the mission of the funding source, National Science Foundation (NSF). We use our guiding principles to filter customer and stakeholder requests and requirements. Collected from the Stakeholder Survey and other sources of customer and stakeholder input.
3.2.2. How do you enable customers to seek information and support?	There are a number of methods we use to provide customer access for information and support, as discussed above in item 1. Key customer support mechanisms include communication access through the FLATE and MIF websites, numerous tours and events, the semi-annual ET Forum, IAC and NVC meetings, as well as webinar based meetings, social media and news alerts, and the regular typical communication methods of email and telephone.
3.2.3. How do you determine your customer groups and market segments?	FLATE customer groups are first generically determined by the requirements of the NSF funding source. The mandated work streams of curriculum development, outreach and professional development are focused on producing AS degree technicians to support manufacturing industry. In the Community/State College customer group, segments are determined by the likelihood of adoption of the ET degree program, initially based on the existence and strength of a current technical education program. Additional customer groups are identified as those that are required to serve in order to meet the needs of the primary customer. For instance, strengthening and supporting the industrial CTE programs in the school districts and faculty increases enrollment in the technical program at community and state colleges.
3.2.4. How do you build and manage customer relationships?	Many of the customer access and stakeholder feedback approaches described in the items above also double as means to build relationships with customers and stakeholders. Approaches include, supporting associations and industry organizations through attendance at conferences and meetings, using the exhibit booth at events, campus visits, providing common marketing support materials to ET programs and trade and industry associations, building of relationships and connections through the state agencies, partnerships with industry groups, and keeping contacts with all stakeholders. FLATE provides broad ranging support to customers financially and intellectually. This includes mentoring in curriculum development, direct support in developing frameworks, review of programs for equipment and facility needs. FLATE has developed its name as well with the Made in Florida brand in Florida and nationally. FLATE extends and builds the customer relationship with prospective partners. Relationship building and maintenance begins with initial contact. Interaction with various customer and stakeholder segments includes the FLATE Focus newsletter, contacts through trade and industry associations, and through meetings of the IAC and NVC, use of web media tools, and personal contacts. The FLATE organizational culture is reinforced within the team and within the volunteer/stakeholder core, reinforcing personal interactions and pro-action in maintaining relationships. Action items are reviewed with the team members at weekly meetings to reinforce the customer-focused culture.

	As stated in the questions above, multiple communication access methods provide conduits for soliciting and collecting feedback from stakeholders, customers, and partners. Since 2009, the biannual Stakeholder Survey provided a direct means of collecting feedback and ideas for new or expanded services, products, and activities. The stakeholder survey results have instigated a more active relationship and partnership with customers and stakeholders.
3.2.5. How do you manage customer complaints?	As queries, concerns, and complaints come in, they are handled on a case-by-case basis individually by team members, with guidance from senior team members and leaders if necessary. At the weekly team members meeting, and monthly Leadership Meetings, issues are brought up to deal with the inquiry/complaint systematically from an organizational point of view. The weekly team members' meetings provide the venue for team members to be exposed to customer issues across the organization. Once the complaint is brought into the formal FLATE structure, the complaint is addressed proactively.

Category 4 – Measurement, Analysis, & Knowledge Management
Sterling Challenge Response – 2016

Category 4 Question	Strengths
4.1	
4.1.1. How do you use data and information to track daily operations and overall organizational performance?	Organizational measures and results are consolidated for reporting in four key annual documents. These are the NSF report, the ATE Survey, the NVC report and the external evaluation report. Creation of effectiveness measures is guided by the grantee's, National Science Foundation (NSF), requirements, although specific measures are decided within FLATE's Evaluation Plan where selected measures are aligned with the four high level key organizational objectives and goals pertaining to Sustainability, Curriculum Development, Outreach, and Professional Development. High level Effectiveness Measures aligned with these are identified, as well as lower level objectives with measures. The Annual National Visiting Committee (NVC) meeting, monthly Leadership meetings, and weekly team member meetings are used to monitor FLATE objectives and actions through these key measures. Periodic collection and compilation of data are reviewed during the year to communicate progress and performance measures encompassing the entire organization, and are used for tracking overall performance and accomplishment of strategic objectives. The National Visiting Committee (NVC) evaluation is used annually to review performance and to identify opportunities at the strategic and objective/operational levels. The Leadership Team and the Industry Advisory Committee (IAC) are also involved in the performance review process and in the implementation of operational priorities. At weekly meetings, team members review a segment of performance data and establish priorities for improvement actions as necessary. Goals and the objectives timeline are reviewed regularly at Leadership and Team Member meetings, to make adjustments based on the current environment. The External Evaluator continuously monitors the evaluation processes and procedures and submits a formal annual evaluation report to NSF. FLATE submits the required annual report to NSF, and completes the ATE survey. Key organizational measures include those that monitor and track the four key organizational objectives in Sustainability, Curriculum, Outreach, and Professional Development. The FLATE

	Effectiveness Measures table outlines the key organizational measures. Additionally, FLATE budget is tracked by the host college and is overseen by NSF. Data updates are circulated within the team, discussed at team member meetings, and Leadership Team meetings, and summarized in annual reports. Comments are collected from team members about potential responses to the data and appropriate action is taken. For example, in relation to Summer Robotic Camps, briefings are conducted for all team members and volunteers before and after each camp, and data are collected regarding participant and parent satisfaction. Data are compiled and circulated for review on a regular basis, and compared with other camps to achieve benchmarks for establishing baseline comparative performance. Surveys for professional development, the Engineering Technology (ET) Forums, and other activities include questions based on national benchmarks which are reviewed annually. Questions address if participants felt they learned content, could apply content, and would recommend the experience to others. All questions encourage participants to share explicit reasons for any questions reflecting dissatisfaction. Survey information is compiled and reviewed aggregately at team meetings and Leadership Team meetings, and action items are developed. These data are also used to develop new or improved processes and procedures. An example is the development of the Tour Agenda checklist used to standardize the approach to all activities required for all tours.
4.1.2. How do you select and effectively use comparative data and information?	Data selection is guided by finding similar programs and processes and collecting comparative performance data (e.g. for summer robotics camps and curriculum effectiveness activities). FLATE Leadership seeks comparative information and data, and benchmarks when interacting with other NSF ATE organizations. Other NSF ATE Centers, such as Consortium for Alabama Regional Center for Automotive Manufacturing (CARCAM), Regional Center for Next Generation Manufacturing (RCNGM) and EvaluATE, have similar resources, activities, and newsletters which provide good comparisons for effectiveness. Comparisons for relevant data are progressively sought internally, from the Florida Department of Education (FLDOE), and other external sources. A cycle of improvement resulted in a new system of criteria for seeking and collecting comparisons. Criteria for selection includes analysis of answers to these

	questions: is there a center or other organization analogous in mission, do they collect reliable data for analogous activities, do they have a focus in similar discipline areas?
	As an example of use of comparative information in decision making, FLDOE enrollment data provide comparisons internal to the Florida education system. Externally FLATE collects enrollment data from another NSF ATE Center, RCNGM, which provides comparison of the program impact on enrollment. RCNGM is generally recognized as a high performing Center. In the educational industry, the primary stakeholder, NSF, does not demand that measures and definitions be aligned throughout the system. Difficulty is encountered in elemental comparisons to identify good practices which have positive impact on enrollment.
4.1.3. How do you use voice of the customer and market data and information?	Voice of the Customer and customer feedback and input are selected through data collected in different surveys of customers and stakeholders. Surveys are guided by organizational goals and objectives, by the NSF award, by the NVC as a governing body, and the Industry Advisory Committee (IAC). Information from these surveys is compiled, and analyzed in team member meetings, Leadership Team meetings, and NVC and IAC meetings. Actions are developed based on these analyses.
4.1.4. How do you ensure that your performance measurement system can respond to rapid or unexpected organizational or external changes?	FLATE depends on a performance improvement approach to analyze effectiveness measure data in determining causes and actions for improvement. For example, through partners FLATE has learned that manufacturers are complaining about a consistent skills gap in newer technologies. The enrollment effectiveness measure can detect changes in enrollment but is not sensitive enough to detect the specific causes.
	To ensure thorough customer and market information, partners are sought and developed to assist in bringing new perspectives. In this example, partnerships with FloridaMakes and Power America (an NNMII) have been developed, which are closer to and are more sensitive to the root causes of enrollment lag. FloridaMakes' business is to be in the manufacturer workplace daily to determine and address employee skill needs. Power America will generate new technologies for implementation in Florida's manufacturing industry.
	NSF is aware of effectiveness measure limitations, so NSF allows FLATE to take advantage of opportunities identified in effectiveness results analysis without adjusting current resources. After analysis of data, NSF allows FLATE

	to justify and apply for supplemental funds to better meet goals and objectives and changing needs.
4.1.5. How do you review your organization's future performance?	Current effectiveness measures data and results are reviewed. Analysis of the trends indicates projected results expected. These reviews are conducted by the Leadership Team and at team member meetings. Key effectiveness measures lead to develop performance models FLATE uses this model to extrapolate projected performance.
4.1.6. How do you share best practices in your organization?	Sharing comes in Leadership Team meetings and Team member meetings during review of organizational results and progress. FLATE recommended practices are captured in booklets published and distributed by FLATE within and beyond the FLATE organization to stakeholders through social media, website, manufacturer association and national and state meetings.
4.1.7. How do you project your organization's future performance?	See 4.1.5 above.
4.1.8. How do you use findings from performance reviews (addressed in question 5) to develop priorities for continuous improvement and opportunities for innovation?	Data updates are circulated within the team, discussed at team member meetings, and Leadership Team meetings, and summarized in annual reports. Comments are collected from team members about potential responses to the data and prioritize using the problem solving structure. Then appropriate action is taken. For example, in relation to Summer Robotic Camps, briefings are conducted for all team members and volunteers before and after each camp, and data are collected regarding participant and parent satisfaction. Data are compiled and circulated for review on a regular basis, and compared with other camps to achieve benchmarks for establishing baseline comparative performance. Surveys for professional development, the ET Forums, and other activities include questions based on national benchmarks which are reviewed annually. Questions address if participants felt they learned content, could apply content, and would recommend the experience to others. All questions encourage participants to share explicit reasons for any questions reflecting dissatisfaction. Survey information is compiled and reviewed aggregately at team meetings and Leadership Team meetings, and action items are developed. These data are also used to develop new or improved processes and procedures. An example is the development of the Tour Agenda checklist used to standardize the approach to all activities required for all tours.
4.2	

4.2.1. How do you manage organizational knowledge?	FLATE information is readily available to Team Members, through methods including use of the website and posting of goals and objectives in the FLATE office. Discussions of implementation level tasks occur at weekly Team Member meetings. Processes and procedures are documented and updated regularly in HCC shared files. Additionally, other forums, as discussed earlier in categories 1 and 3, are available for collection and transfer of knowledge. Team members use existing knowledge to refine business process. With process improvement, knowledge is built into new approaches. Additionally, ET Forum participants contribute and add to improvements in FLATE's activities for achieving its curriculum mission.
4.2.2. How do you use your knowledge and resources to embed learning in the way your organization operates?	FLATE has established sets of recommended processes that govern the way the organization operates. Using the problem-solving structure, team members and volunteers establish new procedures blending input from customers and stakeholders with team member knowledge and experience. As improvements are made by incorporating current team member knowledge into new processes, knowledge becomes embedded in the operation.
4.2.3. How do you verify and ensure the quality of organizational data and information?	The FLATE data management plan was developed based on NSF expectations and HCC mandates, following recommended practices. Expectations are established for team members for documentation and data entry processes. FLATE has a standardized procedure and criteria for prioritized data collection and entry. Verification of data is assured by built-in field protection and field types in the software and applications use. Use of simplified response alternatives on surveys facilitates easier response and more accurate collection of actionable data. Quality is assured as data are reviewed and spot-checked by senior leaders to ensure entry accuracy. The review consists of seeking and identifying "outliers" and inconsistent data. Shared directory files are regularly reviewed with the entire team to ensure files are up to date. Security is enhanced by use of passwords, restricted access, firewalls, and anti-virus software, and is supported by the FLATE host organization, Hillsborough Community College (HCC). Collecting information on line minimizes transcription errors and multiple-handling on paper.
4.2.4. How do you ensure the security of sensitive or privileged data and information?	Practices are in place based on the HCC host requirements and management of data systems for security of data. Data security is governed by HCC policies and procedures. Employees are background-checked for employment. Policies are in place to discourage release of privileged information and protect he

	security of privileged data. FLATE is exempt from Institutional Review Board (IRB) requirements, meaning that no sensitive personally attributable data are collected. Data and information collected from FLATE activities for evaluation and performance improvement needs are aggregated, in the public domain, and contain no confidential information.
4.2.5. How do you ensure the availability of organizational data and information?	All FLATE information is in the public domain. Data are made available to NSF through strictly defined NSF protocols. Data are made available to the Team Members through password access. Data is always available to customers and stakeholders through distribution in the FLATE Focus newsletter, websites and wiki site, and at IAC and NVC meetings, and conference presentations and publications. Based on FLATE's support by its host, HCC, there is an extensive network of data backups and system redundancies; specifically, by using two independent servers in two geographically separate locations, two websites for information availability, and two independent resources for information technology support.
4.2.6. How do you ensure that hardware and software are reliable, secure, and user-friendly?	All information systems equipment is provided maintained by HCC. HCC routinely surveys FLATE team members to assure a user friendly environment.
4.2.7. In the event of an emergency, how do you ensure that hardware and software systems and data and information continue to be secure and available to effectively serve customers and business needs?	FLATE has no options in this matter and must follow HCC protocol. FLATE participates in the HCC Emergency Preparedness Plan. Procedures for all emergencies are prescribed by HCC and reviewed and adapted by FLATE. Local data is backed up to servers on a regular basis. Maintenance of the shared directory is locally reinforced to ensure timeliness and accuracy of data.

Category 5 – Workforce Focus
Sterling Challenge Response – 2016

Category 5 Question	Strengths
5.1	
5.1.1. How do you assess your workforce capability and capacity needs?	Capacity and capability needs are defined by the strategic goals based on National Science Foundation (NSF) and Industry and education community input and needs, as well as the National Visiting Committee (NVC) recommended tasks. Capacity needs remain constant throughout the term of the grant award. Positions are defined up front in the grant application and award. Due to contract limits, additional paid workforce cannot be added. Additional tasks are accomplished by adjusting the number and capabilities of volunteers and contractors. Assessing workforce capability and capacity is accomplished informally by the FLATE Executive Director in reviewing personnel skills and knowledge against the needs of FLATE to accomplish its mission.

5.1.2. How do you recruit, hire, place, and retain new workforce members?	Hiring practices, governed by the host college, ensure that all eligible candidates for positions have equal opportunity for selection. FLATE's volunteer workforce is enhanced by inclusion of an array of volunteers from education, industry, business, government agencies, and industry community groups. Staff recruiting, hiring, and placement rigorously evaluates prospect capabilities, background and experience for integration of various perspectives into the workforce. Retention of the workforce is accomplished through systematically providing challenging opportunities and engaging and empowering the workforce. At weekly staff meetings, team members are involved in review of performance measures, then engaged in problem-solving activities when measures indicate unfavorable levels and/or trends. Workplace environment includes flexible time, open communications, and excellent benefits from HCC.

| 5.1.3. How do you organize and manage your workforce? | FLATE has a flat organizational structure of employees and volunteers, where ownership and responsibility for action is well-distributed. Full-time team members meet weekly on Monday mornings to review and address performance data and information. Structured volunteer teams, the IAC and NVC are integrated into the FLATE organization using a Team-based approach to problem-solving and improvement. This team-oriented perspective nurtures collaboration to accomplishing assigned actions to meet objectives. See FLATE Org Chart. |
| | Management is by exception. Projects are defined to meet objectives and each is assigned a leader. This structure is managed for change as defined by and as results are reviewed and evaluated. See 5.2.4 below for additional information about individual performance management. The expectation is that high performance by a member of the workforce is determined by the ability to manage successful projects. |

5.1.4. How do you prepare your workforce for changing capability and capacity needs?	FLATE hiring practices accommodate changes as the organization evolves. New hires are expected to meet current requirements when hired, and have the ability and flexibility to continuous learn and adjust by acquiring new knowledge and skills. The Leadership Team reviews customer and stakeholder changing needs, as well as FLATE performance results. Trends are monitored. Projects aligned with FLATE objectives are developed based on these needs and trends. Consequently, skill and knowledge requirements of team members and volunteers are assessed relative to FLATE performance. Appropriate professional development activities are offered to cultivate adequate skills to address current needs. Changing capacity needs are addressed with volunteers or engagement of other external sources, as appropriate.

5.1.5. How do you ensure workplace health, security, and accessibility for the workforce? 5.1.6. How do you support your workforce via services, benefits, and policies?	The host college, Hillsborough Community College (HCC), plans and policies are used to ensure workplace health, safety, and staff security. Needs are driven by OSHA and regulatory requirements and, on tours and outside events, by the individual host facilities, whether schools, businesses, or others. During staff on-boarding and at Team Meetings, the staff is oriented to health, safety, and security requirements, driven by the host, HCC. Workforce policies, pay, compensation, and benefits are governed by personnel policies of the host college. Flexible time is afforded to team members. Employee P-cards are available to purchase items as necessary (to limited amount) without prior approval. The staff is organized around required functions and specific projects initiatives linked with strategic objectives and to meet needs as they arise. Team Members are organized in teams to meet these needs. Ad hoc teams are formed as needed to work on these projects and initiatives, as reinforced in team meetings. A dedicated team member is assigned to manage the various volunteer project teams including the Industrial Advisory Committee (IAC), the National Visiting Committee (NVC), and the Executive Committee. The focus on stakeholders is reinforced through deployment of organizational guiding principles and review of metrics, which inherently are focused on stakeholders and customers, and problem-solving activities.
5.2.	
5.2.1. How do you foster an organizational culture that is characterized by open communication, high performance, and an engaged workforce? 5.2.4. How does your workforce performance management system support high performance and workforce engagement?	Policies and approaches have been successful in engaging team members. Tenure of full time employees is high relative to other National Science Foundation Advanced Technological Education (NSF-ATE) centers. Three of the five team members have been employed full time at FLATE for more than 5 years. FLATE leadership fosters a culture of open communication and engagement through discussion and weekly follow-up with staff at regular meetings and ongoing interactions regarding projects progress tracking. The culture of FLATE is to be inclusive of ideas and opinions of staff, partners, and other stakeholders. This is nurtured by the many venues for stakeholder interaction, such as IAC meetings, NVC meetings, industry tours, the Engineering Technology (ET) Forum, and other activities and events. FLATE Team member individual annual goals are established and reviewed in discussions and communication with the Executive Director. For example, regarding FLATE Ambassadors, ideas are discussed and shared at meetings of the team, the IAC, and other volunteer groups. The FLATE Hero approach for industry partners recognizes their support and participation. Recognition is spotlighted in the FLATE Focus newsletter, to highlight volunteer activity, and at the annual FLATE awards for educators and industry supporters.

	Leadership team meetings are used to identify good practices and to help to transfer knowledge across the organization to volunteers and other stakeholders. Also, communication is exchanged with participatory colleges, as well as with prospective participant colleges on an expanding list, to transmit important information and knowledge sharing within the network. There is also regular two-way communication with several divisions of the Florida Department of Education as a conduit for openly sharing knowledge with other colleges, within and outside of the ET network of colleges. There are several social media vehicles used by FLATE as well to enhance communication. Recognition (both, personally and in email) is given to team members whenever specific high performance is noted. The host college's cyclical performance evaluation system is used annually and supplemented with the FLATE annual goals discussion for each team member. Support for high performance is provided to the team through the use of tools and other resources. The Team member evaluation system includes individual goals linked to FLATE objectives. FLATE applies the HCC recognition systems, as well as informal recognition approaches for recognition in Team Member meetings and daily in the office. Team members are engaged regularly at weekly meetings used for general communication of information as well as review of performance measures and action planning to solve problems and improve performance. FLATE performance measures implicitly bring team attention to customers, stakeholders, and the business. Reviewing organizational performance measures linked to strategic objectives consequently brings focus, which is reflected in the FLATE guiding principles. Emphasis is placed on customer focus at Team member meetings, such as timely and responsive callbacks to stakeholders. Among the volunteer workforce, high expectations are established, such as through communication in conference calls and specific guidance provided for regional manufacturers associations in preparation for Manufacturing Day activities each year.
5.2.2. How do you determine the key drivers of workforce engagement?	As implicitly described, the culture of FLATE is to be inclusive of ideas and opinions of staff, partners, and other stakeholders. During counseling, when performance feedback is given, full time team members are asked about their personal and professional goals which are interpreted by leadership to derive engagement drivers. For volunteers, the stakeholder survey results are used for this purpose.
5.2.3. How do you assess workforce engagement?	Assessment of workforce engagement is accomplished through frequent interaction with Team members, at weekly meetings, and through tour and event surveys of industry volunteers. Engagement is further evaluated by the level of unsolicited contributions, suggestions, and ideas for and making improvements. The biannual Stakeholder Survey is conducted among all stakeholders. This survey has been conducted in 2009, 2011, and 2013 and 2015. Engagement of volunteers is demonstrated by the response level to the stakeholder survey, and levels of involvement for manufacturing day activities and other events. Stakeholder survey demographic information allows identification of satisfaction by various segments, including educators, administrators, industry, and others. Event follow-on reports

	capture description of some of the anecdotal situations related to workforce and stakeholder engagement. Overall performance is tracked by discussion of data, trends, and tracking charts.
5.2.5. How does your learning and development system support the organization's needs and the personal development of your workforce members, managers, and leaders? 5.2.6. How do you evaluate the effectiveness and efficiency of your learning and development system?	Personal development is accomplished through FLATE Team discussions about individual goals. The Executive Director and each individual team member separately identify goals and come together annually in dialogue to reconcile and agree on a set of individual annual goals that are aligned with FLATE objectives. Individual evaluations and goal planning sessions serve to meet FLATE-identified and individual-identified personal training and development needs. Specific individual needs are assessed for a match with the person and personality, and appropriate training is identified. Mentoring and just-in-time training is provided to staff members regarding individual needs in support of goal accomplishment. FLATE and staff take advantage of host college resources particularly in the area of information technology support and training. Professional development is tracked by hours and reported and reviewed by the FLATE Team. Feedback from joint reviews within the Team is focused on improving overall performance of individuals and the organization. Although an individual may not be in a leadership position by title, there is still an expectation to perform situationally as a leader. People are hired and brought in to the organization based on expertise and their capacity to learn. They are placed in working situations and expected to perform and learn, with some mentoring by senior leaders or other experts. Sterling criteria are used as the template for leading and managing the organization, and enhancing the development of senior leaders and the leadership team. Further development is reinforced through cross-pollination at meetings and in other venues to share knowledge and expertise. Cross-training is endemic because of the small size of staff; staff cross-training is pervasive so that most critical skills are covered by backups, or plans in place to bring in outside skills for certain tasks. Team members are expected to ultimately take ownership of all aspects of projects and activities for which they lead. As core competencies and strategic challenges are addressed, learning and development activities are established to support sustainability of the FLATE mission; skills and capabilities and knowledge are pursued to enhance or develop new core competencies of FLATE which support the mission. The host college, HCC, provides mandatory ethics and diversity training for staff. Focus on customers at FLATE is accomplished through individual performance evaluations and follow-on discussions and the establishment of individual Team member goals which link back to high level FLATE objectives which focus on stakeholders.

	The FLATE Executive Director immediately gives opportunity to staff members to explicitly use new knowledge and skills on the job after returning from training or outside developmental events. The breadth of development opportunities includes education, training, coaching, mentoring, and work-related experiences, as appropriate.
	Evaluation of development and learning systems ties back to organizational performance. Overall organizational performance is an indicator of the effectiveness of training and development systems. Organizational performance is informally used to gauge effectiveness by the degree of goal accomplishment, and potentially by reviewing complaints received. Additionally, peer recognition and recognition by NSF in the form of grant renewal are indications of effectiveness. Also, when putting the new skills and knowledge to use after training, whether the staff member is able to accomplish the task in a better way, is also a measure of effectiveness. Additional professional development opportunities follow as performance levels are achieved.
	Volunteer workforce development opportunities are provided, such as through webinars, tour tips, as well as, best practices and procedures for plant tours, individual coaching in data collection and compilation, and coaching about summer robotic camp performance and practices.
5.2.7. How do you manage career progression for your organization?	FLATE relies on its ability to hire people with background skills to learn to be able to move into other positions as their career progresses, inside or outside FLATE. Career progression is managed through monitoring, evaluating, and counseling individual performance and individual goal-setting and development. Besides preparing the employee for current work within FLATE, with an eye on the future expiration of the grant, employees are prepared for follow-on positions beyond FLATE, including HCC employment as a possible destination. Employees are empowered and take leadership roles and decision-making roles in specific projects assigned in the course of regular FLATE business.

Category 6 – Operations Focus
Sterling Challenge Response – 2016

Category 6 Question	Strengths
6.1	
6.1.1. What are your key work processes?	Driven by the National Science Foundation (NSF) grant, work systems define work streams and are developed and based around the core organizational goals: organizational sustainability, curriculum development, professional development, and outreach. These work streams are interconnected and drive required key products and services. Key work processes are: ***Curriculum:*** needs assessment (defined by state and individual college requirements), curriculum development, delivery of curriculum, feedback collection, implementation improvement. ***Prof Development (PD)***: needs assessment, custom content development, content, presentation, feedback collection, implementation improvement. ***Outreach***: market segment analysis, product development, product delivery, feedback collection, implementation improvement, event production (e. g. camps, industry tours), promotion (e.g. newsletter, social media, publications).
6.1.2. How do you determine key services and work process requirements?	NSF grant deliverables drive processes and services. Services and work process requirements are shaped by Florida DOE curriculum requirements, college policies and procedures, and stakeholder input.
6.1.3. How do you design your products and services and work processes to meet requirements?	Requirements of products, services, and work processes are established through the goals and work streams and information collected in similar funded projects, in focus groups, leadership monthly meetings, meetings with stakeholders and experts in the field, and with other educational, manufacturing and government organizations. FLATE takes advantage of support process services at the partner institutions [i.e. Hillsborough Community College (HCC) and University of South Florida (USF)]. Key requirements are determined through evaluation of industry standards and procedures, focus group input, formalized feedback collection, accepted best practices comparisons, and feedback collection and interaction with the work or support process customer at all stages of process development. This information is supplemented by knowledge gained through established partnerships, from Team members, and advisory groups, such as the Industry Advisory Committee (IAC),

	National Visiting Committee (NVC), ad hoc committees, the community college advisory groups, and the ET Forum. A Team member is assigned to manage the various volunteer groups and their activities supporting FLATE work streams. Support processes have been documented and coordinated with the key work system processes to ensure they are enabled.
	A core competency, for example, development of curriculum, is retained internally. If needed, outside expertise is sought to support final development. The Leadership Team uses FLATE's Guiding Principles to make decisions for external or internal sources.
6.1.4 How does your day to day operation of work processes ensure that they meet key process requirements? and 6.1.6. How do you improve your work processes to improve products and services and performance, enhance your core competencies, and reduce variability?	Key work processes build in evaluation and improvement, like debriefs for tours and framework reviews every 3 years for curriculum. Team members consistently review progress of processes at weekly meetings and seek to identify opportunities for improving performance. Comparisons and benchmarking opportunities are based on analogous processes in other organizations, are systematically selected through a set of selection criteria to identify best practices and innovations for assimilation into FLATE. Work and support process requirements are more specific at the point they intersect the key operational approaches. Key work processes have built-in evaluation and improvement steps. New technologies are identified through feedback, and observance of trends and best practices in similar NSF ATE Centers nationally. These are evaluated by the Leadership Team and integrated into FLATE's work and support processes as deemed useful. Integration of social media to enhance the work systems is an example of adoption of best practices to improve operations. Standardized procedures are developed, tested, and modified as necessary to improve process performance and reduce variability. A structured process improvement method is implemented, in any process improvement situation, to determine the current situation based on process information and measures, determination of causes if process performance does not meet needs, development of corrective actions, and monitoring of process progress.
6.1.5. How do you determine your key support processes?	Key support processes vary with customer needs. Work processes and FLATE's enabling support processes contribute to organizational success and sustainability by providing resources, supporting partnerships with stakeholders, and providing services and products to customers/stakeholders. Stakeholder input is solicited via the bi-annual stakeholder survey, for each work stream. Assessment of the stakeholder's needs defines the scope of support to be provided. An example is the

	assistance provided to a prospective college (South Florida State College) adoption of the ET degree program. In discussion with the College, the breadth and depth of knowledge of task is established and appropriate support and information are provided.
6.1.6. How do you improve your work processes to improve products and services and performance, enhance your core competencies, and reduce variability?	Work and support are managed through evaluation and analysis of performance measures and data. Leadership and Team members monitor measures to identify actions required to modify and guide performance of the processes. The Leadership Team monitors performance of the processes and work systems using feedback from stakeholders and customers and tracking progress through metrics. Processes are measured by evaluating the contribution of the specific work process to the overall goal level accomplishment. Processes are managed by ensuring adherence to accepted procedures, reviewing feedback from stakeholders in each step, and analyzing and making improvements as necessary. Review of collected feedback is accomplished at weekly Monday Team meetings, and using other communication channels. Information is also collected through FLDOE from other entities for use as best practices, and from published papers.
6.1.7. How do you manage for innovation?	Innovation and improvement of work processes are accomplished through collecting feedback and identifying needs from stakeholders, to define then implement best practices. Innovation is also supported beyond the use of accepted work practices by cultivating a culture that encourages innovative ideas. An example is the use of the required curriculum framework as a survey template for determining how industry needs are being met. Additionally, the establishment of the ET curriculum framework and implementation of the Sterling criteria for performance excellence further demonstrate innovation at FLATE. FLATE has adopted use of Sterling criteria and, uniquely to all ATE centers, is seeking recognition for taking the Sterling challenge, a Baldrige-based performance excellence model.
6.2	
6.2.1. How do you control the overall costs of your operations?	Overall costs are managed through daily process management best practices. Ultimately, costs of work and support processes are controlled by sharing and shifting ownership (i.e.in an effort to establish sustainability of FLATE's mission at grant expiration) through partners, with guidance and instructions for operating the processes. Volunteers are used to supplement FLATE funding. This demonstrates an innovative approach and strategy of distributed sustainability. In other words this

	is a means for assuring sustainability of segments of FLATE's mission beyond the life of the grant.
	Costs are reduced by reviewing and integrating and standardizing best practices. Costs are minimized through continuous improvement activity. Additionally, regular process improvements at Team meetings, IAC meetings and NVC meetings contribute to streamlining and making processes more efficient and more impactful. Avoiding rework is accomplished through review of processes based on feedback from stakeholders and standardization of procedures. Actions are planned for improvement based on the data and reviews of metrics in Team meetings, Leadership meetings and IAC and NVC meetings.
6.2.2. How do you manage your supply chain and evaluate performance?	Supplier management is governed by NSF and HCC policies and regulations. Supplier and partner relationships are enhanced through consistent, two-way communication, involvement in teams and process management, and providing feedback information and metrics/data. Communications include face-to-face visits and meetings, email, phone, and access to online information with partners. Key suppliers provide web services, graphic and video services, IT system and support, enrollment data, center evaluation, NVC oversight, HR management, budget services, and physical space. Contracted services are evaluated based on stated expectations in agreements and feedback is provided to adjust services or terminate contracts.
6.2.3 How do you provide a safe operating environment?	This is accomplished through following HCC host policies and required procedures. FLATE's main office is essentially dependent on the host college policies and procedures.
6.2.4 How do you ensure that your organization is prepared for disasters or emergencies?	The geographically dispersed nature of the activities by FLATE affords an opportunity for redundancy in activities around the state. Team members can conduct most work outside of the office space. In this way, continuity is assured even in the event of an emergency in any regional part of the state.