Georgia Tech is conducting this survey to develop benchmark information to help Georgia manufacturers be more competitive and improve state business and technology services to industry. Prior Georgia Manufacturing Surveys were completed in 1994, 1996, 1999, 2002 and 2005. We appreciate your cooperation in making the 2008 survey a success.

- In return for completing your survey, we will send a summary and customized report comparing your data with industry statistics.
- All company information will be kept confidential. All individual firm and facility information will be kept in a secured, limited access location. Results will only be presented in an aggregated form. Your firm or facility’s identity will not be revealed in any publication or presentation of the results of this survey.
- We understand you do not always keep exact records of all activities – estimates and rounding are fine.
- This is the only copy sent to this facility. If there is another person at your location who can complete the survey, please forward this mailing to them.
- Survey questions refer to this facility or plant.
- Web-based survey is available at www.cherry.gatech.edu/survey

Please return this survey in the enclosed postage-paid envelope within 10 days to:

Jan Youtie  
GMS 2008 – EII Project Number [ID]  
Enterprise Innovation Institute  
Georgia Institute of Technology  
Atlanta, Georgia 30332-0640

Questions about the survey?

Telephone: (404) 894-6111  
Fax: (404) 894-1447  
e-mail: gms2008@innovate.gatech.edu  
www.cherry.gatech.edu/survey

Please confirm your name and address and make any changes if necessary.

[Contact Name]  
[Company Name]  
[Address]  
[City], [State] [Zip]  
[Phone]

THANK YOU FOR YOUR HELP
1.1. Is this facility a single-establishment enterprise, not affiliated with any other enterprises?
   - Yes (skip to Question 1.2)
   - No — this facility is part of a company or group with two or more separate facilities.
     - If part of a multi-facility company or group, is the head office located in Georgia?
       - Yes
       - No, head office is located in ___________(US state) or __________ (country outside of the U.S.)

1.2. At what year did you begin manufacturing at this facility?

1.3. Your facility’s main product or manufacturing activity is: (Please check one)

| Food, beverages, feed | Stone, clay, glass, or concrete products |
| Textiles | Primary metals (iron, steel, nonferrous) |
| Apparel, leather | Fabricated metal products |
| Lumber and wood products, except furniture | Machinery (industrial, nonindustrial) |
| Furniture (wood or metal) | Computer and electronic products, instruments |
| Pulp, paper, or paper products | Electrical equipment, appliances, or components |
| Printing, publishing | Transportation equipment |
| Chemical, petroleum, coal & allied products | Medical or laboratory supplies |
| Plastics or rubber | Other (please describe) |

1.4. For the plant’s main product(s), please RANK the order of importance of the following factors according to how your facility competes in the market place for sales. 1=most important, 6=least important.

Please do not give the same ranking to more than one factor.

Low price
High quality
Innovation/new technology
Quick delivery
Adapting product to customer needs
Customer service that adds value to products/processes (i.e., training, consulting)

1.5. In which of the following areas does your facility have the most significant problems or needs? (Check all boxes that apply.)

Expansion planning, facility layout
Lean manufacturing and workflow improvement
Quality assurance (e.g., ISO 9000, QS-9000, Six Sigma)
Product development/design
Marketing and sales
Information systems and hardware
Business strategy, financial analysis, competitiveness planning
Basic workforce skills (e.g., reading, writing, math, keyboard skills)
Technical skills (e.g., machining, electrical work)
Management and leadership
Energy cost management
Water resource management
Environmental compliance and improvement
Safety compliance, health, workplace environment
Other (please describe)
2. **Product, Process and Organizational Innovation**

### 2.1. A product innovation is the introduction of a new or significantly improved good or service. The innovation must be new to your facility, but does not need to be new to your sector or market.

During the period 2005-2007, did your facility introduce: *(please check if yes)*

- New or significantly improved **goods** (exclude resale of goods purchased elsewhere or changes to color or look)
- New or significantly improved **services**

If ANY of the boxes above (from 2.1.) are checked, please continue, otherwise skip to Question 2.4.

#### 2.2. Were any of your goods and service innovations during 2005-2007 *(check all that apply)*

- **New to your market?** (introduced before your competitors)
- **New only to your facility?** (already available from your competitors)

#### 2.3 Using the definitions above, please give the percentage of your total sales from goods and services introduced during the period 2005 to 2007.

<table>
<thead>
<tr>
<th>Sales from good and services that were <strong>new to your market</strong></th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sales from good and services that were <strong>new to your firm</strong>, but NOT to your market</td>
<td>%</td>
</tr>
<tr>
<td>Sales from existing products</td>
<td>100 %</td>
</tr>
</tbody>
</table>

### 2.4. A process innovation is the implementation of a new or significantly improved production process or method of providing services. The innovation must be new to your facility, but it does not need to be new to your sector or market.

During the period 2005-2007, did your facility introduce: *(please check if yes)*

- Any new or significantly improved process or manufacturing technology
- Any new or significantly improved logistics, delivery, or distribution method
- Other processes not covered above, such as new or significantly improved purchasing, accounting, or maintenance processes

### 2.5. An organizational innovation involves new or significant changes in firm structure, management methods, or information exchange systems.

During the period 2005-2007, did your facility engage in any of the following organizational innovation activities?

- Implement new or significantly improved management systems to better use or exchange information, knowledge and skills
- Make a major change to the organization of work, such as changes in management or departmental structure
- New or significant changes in your relations with other firms, such as alliances, partnerships, outsourcing, or subcontracting

### 2.6. A marketing innovation covers new or significant changes in your marketing methods to increase the appeal of your goods or services or enter new markets.

During the period 2005-2007, did your facility engage in any of the following activities? *(please check if yes)*

- Make significant changes to the design or packaging of a good or service (exclude routine or seasonal changes)
- New or significant changes to sales methods or distribution channels, such as Internet sales, franchising, direct sales or distribution licenses
2.7. During the period 2005-2007, did your facility engage in any of the following innovation-related activities? (check all boxes that apply)
- In-house R&D (to increase knowledge or devise innovations, including software research)
- Purchase R&D from research organizations or other branches of your company
- Purchase machinery, equipment, computers or software to implement innovations
- Planning, engineering, design, or other development work to implement an innovation
- Purchase or license patents, inventions, know-how, or other types of knowledge to implement an innovation
- Training staff to develop or introduce innovations
- Market research, advertising, and other marketing activities linked to implementing an innovation

2.8. Please estimate your expenditures for the following innovation activities over the last 12 months. (Include personnel and related costs). Insert zero if your facility had no expenditures in the last 12 months in these categories.

<table>
<thead>
<tr>
<th>Activity</th>
<th>Expenditure</th>
</tr>
</thead>
<tbody>
<tr>
<td>In-house R&amp;D (including personnel costs &amp; capital expenditures on buildings &amp; equipment)</td>
<td>$</td>
</tr>
<tr>
<td>Acquisition of external R&amp;D</td>
<td>$</td>
</tr>
<tr>
<td>Acquisition of machinery, equipment and software (excluding R&amp;D-related expenditures)</td>
<td>$</td>
</tr>
<tr>
<td>Other development work for innovation and all other innovation-related expenditures</td>
<td>$</td>
</tr>
<tr>
<td><strong>Total (sum of above 4 categories)</strong></td>
<td>$</td>
</tr>
</tbody>
</table>

2.9. During the period 2005-2007, check if your facility
- Ever worked with customers to create or design a product, process or other innovation
- Ever worked with suppliers to create or design a product, process or other innovation
- Applied for a patent or registered an industrial design
- Registered a trademark or assumed a copyright
- Signed a confidentiality agreement
- Staff published one or more papers or technical articles (in journals or conference proceedings)

2.10. During the period 2005-2007, did your facility receive any public or private financial support for innovation activities?
- Public support (tax credits, loans, grants from the national, state, or local government)
- Private support (venture capital, angel funding, bank loans)

2.11. If you undertook any innovations in the period 2005-2007, what was the degree of impact of the innovations in each of the following areas?

<table>
<thead>
<tr>
<th>Area</th>
<th>Degree of Impact from Innovation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Increased variety of goods or services</td>
<td>High</td>
</tr>
<tr>
<td>Increased market share or entered new markets</td>
<td>High</td>
</tr>
<tr>
<td>Improved quality of goods or services</td>
<td>High</td>
</tr>
<tr>
<td>Reduced time to respond to customer needs</td>
<td>High</td>
</tr>
<tr>
<td>Improved flexibility of production or service provision</td>
<td>High</td>
</tr>
<tr>
<td>Increased capacity of production or service provision</td>
<td>High</td>
</tr>
<tr>
<td>Reduced labor costs per unit output</td>
<td>High</td>
</tr>
<tr>
<td>Reduced materials and energy required per unit output</td>
<td>High</td>
</tr>
<tr>
<td>Reduced environmental impacts/improved health &amp; safety</td>
<td>High</td>
</tr>
<tr>
<td>Met regulatory requirements</td>
<td>High</td>
</tr>
<tr>
<td>Improved employee satisfaction/reduced worker turnover</td>
<td>High</td>
</tr>
</tbody>
</table>
**PLEASE ANSWER Q. 2.12., WHETHER YOU DID OR DID NOT UNDERTAKE INNOVATIVE ACTIVITIES**

2.12. During 2005-2007, how important were the following factors in limiting your ability to innovate? | Degree of Impact on Innovation
---|---|---|---|---
| | High | Medium | Low | Not experienced
Lack of qualified personnel | | | | |
Lack of information on technology | | | | |
Lack of information on markets | | | | |
Difficulty finding partners | | | | |
Market dominated by established companies | | | | |
Uncertain demand for innovative goods or services | | | | |
No need due to prior innovations | | | | |
Lack of funds, costs too high | | | | |

**3. SUSTAINABLE MANUFACTURING**

Sustainable manufacturing involves minimizing use of natural resources, toxic materials, waste emissions and production materials over the life cycle of the product or part to achieve social, environmental and cost-savings benefits.

3.1. Please can you indicate whether you use or plan to use technologies or techniques to improve the sustainability of the manufacturing processes at this facility in the following areas. (Check one option for each item.)

<table>
<thead>
<tr>
<th>Use</th>
<th>Plan to use in next 2 years</th>
<th>No plan to use</th>
<th>Not applicable</th>
</tr>
</thead>
</table>
Supplier selection (good sustainability performance, practice) | | | | |
Selection of raw materials (lead-free, lower toxicity materials) | | | | |
Extraction and processing of raw materials | | | | |
Product design (design to reduce resource use) | | | | |
Design of manufacturing processes (waste reduction) | | | | |
Facility design/planning (e.g., for energy efficiency) | | | | |
Packaging (reduction, reusability) | | | | |
Marketing (green branding, eco labeling) | | | | |
Employee training in sustainability practices | | | | |
Logistics, transportation services (for emission reduction) | | | | |
Use, reuse and maintenance of product | | | | |
End of life (take back, recycling, disposal) | | | | |

3.2. Do you use any alternative energy sources at this facility?
   - No (skip to Question 3.3)
   - Yes ➔ Which of the following alternative fuels are used at your facility? (Please check all that apply)
     - Biofuels (e.g. ethanol, biodiesel, etc)
     - Biomass (e.g. wood or agricultural waste, byproducts)
     - Solar power
     - Wind power
     - Landfill gas
     - Other (please describe)

3.3. Has this facility set targets to reduce the amount of energy used by this facility?
   - No (skip to Question 3.4)
   - Yes ➔ If this facility has energy use reduction targets. Please indicate targeted percentage of reduction for the following time-frames (Please estimate if necessary):

<table>
<thead>
<tr>
<th>Targeted reduction</th>
<th>Targeted reduction</th>
<th>Targeted reduction</th>
<th>Targeted reduction</th>
</tr>
</thead>
<tbody>
<tr>
<td>for 2008</td>
<td>for Next 2 years</td>
<td>for Next 5 years</td>
<td>for Next 10 years</td>
</tr>
<tr>
<td>%</td>
<td>%</td>
<td>%</td>
<td>%</td>
</tr>
</tbody>
</table>
3.4. Which of the following sustainability management activities are currently used at your facility? If not currently used, please indicate whether there are any plans for use. Check one option for each item.

<table>
<thead>
<tr>
<th>Activity</th>
<th>Use Now</th>
<th>Plan to use in next 2 years</th>
<th>No plan to use</th>
<th>Not applicable</th>
</tr>
</thead>
<tbody>
<tr>
<td>High efficiency lighting</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Water recycling</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Energy audits</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Recycling of production materials</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ISO 14000 practices</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Life cycle costing</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>US EPA or other federal program (e.g. Energy Star)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sustainability program for environmental stewardship</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

3.5. Have you used any of the following sources of information and knowledge in the last two years to develop your sustainability management practices? (Check all that apply)

- [ ] Internal energy or environmental manager at this facility
- [ ] Other existing staff at this facility
- [ ] Other units in the enterprise group – subsidiaries, branches, affiliates
- [ ] Suppliers (e.g. materials, components, equipment, software)
- [ ] Customers, clients or users
- [ ] Competitors
- [ ] External consultants
- [ ] R&D labs, universities, government research organizations, public business assistance, technical or training centers
- [ ] Trade associations, other business organizations
- [ ] Conferences, seminars or technical meetings
- [ ] Printed journals, technical papers
- [ ] Online information sources

4. MANUFACTURING PRODUCTION AND PERFORMANCE

4.1. For the following questions, use approximate numbers or give an estimate. Answers can be rounded. All estimates should be for this facility.

<table>
<thead>
<tr>
<th>Question</th>
<th>2007</th>
<th>2005</th>
</tr>
</thead>
<tbody>
<tr>
<td>What were your <strong>total annual sales or gross value</strong> of shipments at this plant in fiscal year 2007? In 2005?</td>
<td>$</td>
<td>$</td>
</tr>
<tr>
<td>Approximately how much did you spend at this location on purchased materials, parts, and services (i.e. <strong>cost of goods</strong>) in fiscal year 2007? In 2005?</td>
<td>$</td>
<td>$</td>
</tr>
<tr>
<td>What were your <strong>energy expenditures</strong> (e.g. heat, electricity) in fiscal year 2007? In 2005?</td>
<td>$</td>
<td>$</td>
</tr>
<tr>
<td>Approximately how much <strong>new capital investment</strong> was made at this location, including facility, equipment, machinery, and information systems in fiscal year 2007? In 2005?</td>
<td>$</td>
<td>$</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Question</th>
<th>2007</th>
<th>2005</th>
</tr>
</thead>
<tbody>
<tr>
<td>What was the approximate percentage of your facility's sales exported outside of the United States (by value)</td>
<td>%</td>
<td>%</td>
</tr>
<tr>
<td>What was the approximate percentage of your facility’s purchases of materials, parts, and services imported or acquired from sources outside of the United States (by value)</td>
<td>%</td>
<td>%</td>
</tr>
</tbody>
</table>

4.2. What was the approximate average annual return on sales (pre-tax) for this facility over the last 3 years? ([Gross Sales-Cost of Goods]/Gross Sales) (Circle the number closest to your facility’s return on sales.)

<table>
<thead>
<tr>
<th>Return on Sales</th>
<th>2007</th>
<th>2005</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Negative return</strong></td>
<td>![Negative return options]</td>
<td></td>
</tr>
<tr>
<td><strong>Positive return</strong></td>
<td>![Positive return options]</td>
<td></td>
</tr>
</tbody>
</table>
4.3. Has any work that was formerly performed at this facility been **moved outside of Georgia** within the last 2 years?

<table>
<thead>
<tr>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>

**If YES, this work was moved from Georgia to:**

- [ ] Elsewhere in USA
- [ ] Mexico, other Central or South America
- [ ] Asia (including China, India)
- [ ] Europe
- [ ] Elsewhere in world

4.4. Has any work been **transferred back to this facility in Georgia** from outside the state within the last 2 years?

<table>
<thead>
<tr>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>

**If YES, this work was transferred back to Georgia from:**

- [ ] Elsewhere in USA
- [ ] Mexico, other Central or South America
- [ ] Asia (including China, India)
- [ ] Europe
- [ ] Elsewhere in world

4.4. Does this facility have a continuous improvement program?

- [ ] No (skip to Question 5.1)
- [ ] Yes

If you have a continuous improvement program, do you use any of the following? (check all that apply)

- [ ] Lean manufacturing
- [ ] Quality systems, techniques (e.g., Six Sigma)
- [ ] Quality management (e.g., ISO 9000)

---

5. **WORKFORCE AND TRAINING**

5.1. Now, we would like to ask a few questions about your work force. If you don't know exact numbers, just give an estimate.

<table>
<thead>
<tr>
<th>2007</th>
<th>2005</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- **On average, how many employees worked at this location?** (Include temporary workers and convert part-time and contract labor to full-time equivalents.)

<table>
<thead>
<tr>
<th>Full-Time Equivalent Employees</th>
<th>Full-Time Equivalent Employees</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- **What was your total payroll at this location in fiscal year 2007? In 2005?** (Please include direct payroll plus indirect fringe benefit payroll expenses. Include payments to agencies for temporary workers.)

<table>
<thead>
<tr>
<th>Payroll</th>
<th>Payroll</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

5.2. On average in 2007, what percentage of your workers used

a. A computer or programmable controller at least once a week as part of their job?

b. Internet at least once a week as part of their job?

5.3. In 2007, what percentage of employees at this facility had at least the following training or educational qualification:

a. High school graduate or GED?

b. Two or more years of industrial-related training, through technical college, vocational school, or apprenticeship?

c. Four-year college degrees (e.g. B.A., B.S.) or higher graduate degrees?

⇒ Of these, how many majored in science, engineering or information technology?

5.4. In total, approximately how much did your company spend on all training activities in fiscal year 2007?

- Of this, approximately what percentage was related to new activities and tasks (i.e. not routine training)?

5.5. What percentage of employees in production work are in teams (i.e. quality team, work cell)?

(if none, enter zero)
6. BUSINESS ASSISTANCE RESOURCES

6.1. In the past 2 years, has your facility received business assistance from: (Check all that apply.)
- Georgia Tech (main campus or regional office)
- Other university (not Georgia Tech)
- Small Business Development Centers
- Technical college (Georgia Department of Technical and Adult Education, Quick Start)
- Georgia Department of Labor’s recruitment, labor market information, or welfare-to-work services
- Federal laboratory, NASA, or other federal technology program
- Other public or non-profit business assistant source
- A private-sector business assistance source, such as a private consultant, vendor
- Another source not included in the above
- Facility has not received outside business assistance

6.2. Would you or your managers be interested in receiving training or technical assistance in any of the following areas? (Check all that apply.)
- Product design and development
- Technology assistance
- Marketing and sales growth
- Lean manufacturing and process improvement
- Supply chain improvement
- ISO 9000, TS 16949 quality certification
- Six Sigma
- ISO 14000 environmental management certification
- Human resources, leadership development
- Safety & health, ergonomics
- Energy efficiency and management
- Materials and waste minimization
- Other topics (please describe)

6.3. What new training programs would you like to have available to non-managerial employees at this facility? (Check box if your company would benefit from more training of employees in that category, but it is not currently available or provided.)
- English speaking skills
- Reading, writing skills
- Basic math skills
- Technical skills (e.g., machinist)
- Product design and development
- Marketing skills
- Team and problem solving skills
- Quality, lean manufacturing
- Basic computer skills (e.g., keyboarding, word processing, email)
- Advanced computer skills (e.g., database, ERP, Web design)
- Other topics (please describe)

☐ Check here if facility does not need/would not use

☐ Please check this box to receive information about Georgia Tech’s industrial services, seminars, and workshops.