This survey is conducted to develop benchmark information to help Georgia manufacturers be more competitive and improve state business and technology services to industry. We appreciate your cooperation in making the 2020 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 him or her.
- Survey questions refer to this facility or plant.
- Web-based survey is available at http://www.gms-ei2.org

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

Kennesaw State University
Econometric Center
Attn: 2020 Georgia Manufacturing Survey, Project Number [ID]
1000 Chastain Road MD #0403
Kennesaw, GA 30144-9732

Questions about the survey?
Contact: Dimitri Dodonova
Telephone: (470) 578-3390    Fax: (470) 578-9023
e-mail: dcc6185@kennesaw.edu    http://www.gms-ei2.org

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

[JOB TITLE]
[COMPANY]
[ADDRESS 1]
[ADDRESS 2]
[City], [State] [Zip]

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 __________ (U.S. state) or __________ (country outside of the U.S.)

1.2. Is this business:

- Publicly traded (registered securities are available for sale to general public)
- Privately owned

  - If privately owned, is this a family-owned business?
    
    - Yes
    - No

1.3. In what year did you begin manufacturing at this facility?  

Year: __________

1.4a. Your facility’s main product or manufacturing activity is:  (Please check one.)

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

1.4b. Were any of the products manufactured at this facility in 2019 shipped to:

- Federal defense agencies, prime contractors to defense agencies, subcontractors to defense agencies
- Automotive manufacturers, including automotive supply chain

1.5. 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 marketplace 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, timely delivery
- Adapting existing product to customer needs
- Sustainable or green manufacturing

1.6a. Has your facility made any of the following changes in response to changed international tariff policies?

- Increase prices to customers
- Switch to US-based suppliers
- Switch to non US-based suppliers in countries not affected by tariff policy changes
- Stockpile inventory
- Other major change (please describe): __________________________________________________________
1.6b. Did any of the following significant changes occur to this facility in the last 2 years?

- Facility expanded due to acquisition of or merger with another business or part of it
- Facility downsized due to sale or closure of part of the business
- No major change
- Other major change (please describe): ____________________________

1.7. In which of the following areas does your facility have the most significant problems or needs? (Please check all that apply.)

- Expansion planning, facility layout
- Lean manufacturing and workflow improvement
- Quality management system (e.g., ISO 9000, TS16949, 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
- Environmental, health, safety, and workforce compliance and improvement
- Cybersecurity, hacking
- Trade and tariffs
- Other (please describe): ____________________________

2. PRODUCT AND BUSINESS PROCESS INNOVATION

A product innovation is a new or improved good or service that differs significantly from previous goods or services and which has been implemented on the market. The innovation must be new to your facility, but does not need to be new to your sector or market. Resale of goods purchased elsewhere or changes to color or look are excluded.

2.1. During the period 2017-2019, did your facility introduce new or significantly improved: (Check all that apply.)

- Goods
- Services

If you do not check an option, skip to Question 2.4.

If either 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 2017-2019: (Check all that apply.)

- Not previously offered by any of your competitors
- Identical or very similar to products already offered by your competitors

2.3. Using the definitions above, please, indicate what percentage of your total sales in 2019 from goods and services introduced during the period 2017-2019 were:

<table>
<thead>
<tr>
<th>Category</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>New or improved and not previously offered by any of your competitors</td>
<td></td>
</tr>
<tr>
<td>New or improved and identical or very similar to products already offered by your competitors</td>
<td></td>
</tr>
<tr>
<td>From existing goods and services</td>
<td></td>
</tr>
<tr>
<td>Total sales</td>
<td>100%</td>
</tr>
</tbody>
</table>
A **business process innovation** is a new or improved business process for one or more business functions that differs significantly from the firm’s previous business processes and which has been implemented within the firm. The innovation must be new to your facility, but it does not need to be new to your sector or market.

2.4. During the period 2017-2019, did your facility introduce **new or significantly improved**? (Check all that apply.)
- Methods for producing goods or providing services (including methods for developing goods or services)
- Logistics, delivery, or distribution methods
- Higher performing materials
- Corporate strategy, plan
- Methods for information processing or communication
- Methods for accounting or other administrative operations
- Methods of organizing work responsibility, decision making or human resource management
- Business practices for organizing procedures or external relations
- Marketing methods for promotion, packaging, pricing, product placement or after sales services
- Sales methods or distribution channels, such as Facebook/Twitter/other social media, franchising, direct sales or distribution licenses

2.5. Did your facility engage in any of the following activities to achieve **any of the types of innovation mentioned in Questions 2.1 to 2.4**? (Please check if yes for all those that apply.)
- R&D (to increase knowledge or devise innovations, including software research)
- Acquisition or lease of buildings, equipment, machinery, or computers to implement innovations
- Engineering, design, or other creative work to implement an innovation
- Intellectual property related activities (purchase or license patents, inventions, to implement an innovation)
- Employee training activities to develop or introduce innovations
- Marketing and brand equity activities (research, advertising, and other activities linked to implementing an innovation)
- Software development and database activities
- Innovation management activities

2.6. Please indicate the **facility’s expenditures** for the following innovation activities **over the last 12 months**, including personnel and related costs. (Please insert zero in categories with no expenditures.)

<table>
<thead>
<tr>
<th>Activity</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>R&amp;D performed in-house</td>
<td>$</td>
</tr>
<tr>
<td>R&amp;D contracted out to others (including other facilities in your multi-facility group)</td>
<td>$</td>
</tr>
<tr>
<td>Non-R&amp;D acquisition of machinery, equipment, software, intellectual property for innovation</td>
<td>$</td>
</tr>
<tr>
<td>Personnel expenditures for non-R&amp;D innovation work</td>
<td>$</td>
</tr>
<tr>
<td>All other innovation-related expenditures including services, materials, supplies purchased from others</td>
<td>$</td>
</tr>
<tr>
<td><strong>Total (sum of above 5 categories)</strong></td>
<td>$</td>
</tr>
</tbody>
</table>

2.7. During the period 2017-2019, check if your facility:
- Ever worked with **customers** in the creation of an idea, design, or development for a product or process
- Ever worked with **suppliers** in the creation of an idea, design, or development for a product or process
- Applied for a patent or registered an industrial design
- Registered a trademark or assumed a copyright
- Signed a confidentiality agreement
- Use trade secrets
- License, sell, or exchange intellectual property
- Enter into a **franchise agreement**
2.8. During the period 2017-2019, did your facility get financial support from any of these public or private sources for any of the innovation activities indicated in this section? (Please check if yes.)
- Public support through the U.S. Small Business Innovation Research program (SBIR or STTR)
- Other public support (loans or grants from the national, state, or local government, not the SBIR program)
- Venture capital, angel funding, or other private equity investment
- Bank loan or other private debt instrument
- Personal savings, friends, family

3. **MANUFACTURING PRODUCTION AND PERFORMANCE**

3.1. Please, answer for the fiscal years 2017 and 2019 using rounded approximate numbers or estimates for this facility.

| What were your total annual sales or gross value of shipments? | $ | $ |
| What was the total purchase of materials, parts, and services (i.e., cost of goods)? | $ | $ |
| What was the total new capital investment, including facility, equipment, machinery, and information systems? | $ | $ |

| What was the percentage of sales exported outside the U.S. (by value)? | % | % |
| What was the percentage of purchases of materials, parts, and services imported or acquired from outside the U.S. (by value)? | % | % |
| What was the percentage of finished goods imported or acquired from outside the U.S. (by value)? | % | % |

3.2. What was the average annual return on sales (pre-tax) for this facility over the last 3 years?

\[
\frac{\text{Gross Sales} - \text{Cost of Goods}}{\text{Gross Sales}} \times 100\%
\]

\[\text{Negative return}\ 
\begin{array}{ccccccccc}
-25\% & -15\% & -9\% & -6\% & -3\% & 0\% & +3\% & +6\% & +9\% & +15\% & +25\%
\end{array}
\text{Positive return} \Rightarrow
\]

3.3. Has any production that was formerly performed at this facility been moved outside of Georgia within the last 2 years?
- Yes
- No

**If YES, this production was transferred outside of Georgia to:**
- Elsewhere in USA
- Mexico, other Central or South America
- Asia (including China, India)
- Europe
- Elsewhere in world

3.4. Has any production been transferred back to this facility in Georgia from outside the state within the last 2 years?
- Yes
- No

**If YES, this production was transferred back to Georgia from:**
- Elsewhere in USA
- Mexico, other Central or South America
- Asia (including China, India)
- Europe
- Elsewhere in world

3.5. Have any new offices, sales branches, or distributorships been created for this facility within the last 2 years?
- Yes
- No

**If YES, these offices/branches/distributors were created in:**
- Elsewhere in USA
- Mexico, other Central or South America
- Asia (including China, India)
- Europe
- Elsewhere in world
3.6. Which of the following state or federal government benefits does your company use? (Check all that apply.)

- R&D tax credit
- Investment tax credit
- Job credit
- Retraining tax credit
- Import/export credit
- Energy tax credit

3.7. What percentage of employees in production work are in teams (e.g., quality team, work cell)? (If none, enter zero.)

% ______

4. TECHNOLOGIES AND TECHNIQUES

4.1. Which of the following information technologies are currently used (or planned to be used) at your facility? (Check one option for each item.)

<table>
<thead>
<tr>
<th>Information Technologies</th>
<th>Practiced Now</th>
<th>Plan to practice in next 2 years</th>
<th>No plan to practice</th>
<th>Not applicable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bar code readers for data collection</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Computer aided design</td>
<td></td>
<td></td>
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<tr>
<td>Software for scheduling, inventory control, or purchasing (e.g., ERP)</td>
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<tr>
<td>RFID for inventory and warehouse tracking</td>
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<tr>
<td>Supply chain management system</td>
<td></td>
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<tr>
<td>Cloud-based design and manufacturing</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Internet of Things (enables physical objects to be sensed or controlled over the Internet)</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Immersive 3D, virtual or augmented reality (e.g. for training, design such as Google glass)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

4.2. Which of the following quality management and continuous improvement techniques are currently used (or planned to be used) at your facility? (Check one option for each item.)

<table>
<thead>
<tr>
<th>Quality Management and Continuous Improvement Techniques</th>
<th>Practiced Now</th>
<th>Plan to practice in next 2 years</th>
<th>No plan to practice</th>
<th>Not applicable</th>
</tr>
</thead>
<tbody>
<tr>
<td>ISO 9000, TS16949 certification</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ISO 14000 environmental management certification</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ISO 50001, Energy Management System</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Carbon footprint, greenhouse gas emissions estimate</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Quality systems (e.g., Six Sigma)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lean manufacturing</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Preventive/predictive machine maintenance program</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Life cycle analysis</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Digital dashboard for performance management</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

4.3. Which of the following manufacturing production technologies are currently used (or planned to be used) at your facility? (Check one option for each item.)

<table>
<thead>
<tr>
<th>Manufacturing Production Technologies</th>
<th>Practiced Now</th>
<th>Plan to practice in next 2 years</th>
<th>No plan to practice</th>
<th>Not applicable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Computer-integrated manufacturing (CIM)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sensors, vision, other real-time monitoring technology</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rapid prototyping</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Additive, 3D printed manufacturing</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Robots (for automating production tasks without human help)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Collaborative Robots, Co-bots (for assisting production workers)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Advanced materials (e.g., nano-materials, bio-materials, composites)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
4.4. Which of the following data security compliance standards are currently used (or planned to be used) at your facility? (Check one option for each item.)

<table>
<thead>
<tr>
<th>Standard</th>
<th>Practiced Now</th>
<th>Plan to practice in next 2 years</th>
<th>No plan to practice</th>
<th>Not applicable</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Data Protection Regulation (GDPR)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ISO 27001</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cybersecurity Maturity Model Certification (CMMC) framework</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other standards (please describe)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

5. WORKFORCE AND TRAINING

5.1. Please, answer for the years 2017 and 2019 about your workforce using exact numbers or estimates, for this facility.

<table>
<thead>
<tr>
<th>Year</th>
<th>Full-Time Equivalent Employees</th>
<th>Temporary Employees</th>
<th>Payroll</th>
</tr>
</thead>
<tbody>
<tr>
<td>2019</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2017</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

5.2. Does the facility provide bonuses or other incentives to employees based on the following? (Check if yes.)

- New skills or education acquired
- Productivity increases
- New ideas suggested or implemented

5.3. On average in 2019, what percentage of your production workers used the following at least once a day, as part of their job:

- A computer or programmable controller?
- A mobile device to monitor and control industrial equipment
- The Internet

5.4. In 2019, how many employees at this facility had at least the following training or educational qualifications:

a. High school graduate or GED?

b. Non-degree certificates, certifications, or licenses (for skill attainment, not business licenses)
c. Two or more years of industrial-related training, through technical college, vocational school, or apprenticeship?
d. Four-year college degrees (e.g., B.A., B.S.) with majors in science, engineering or information technology?
e. Four-year college degrees (e.g., B.A., B.S.) with majors in other subjects (not science, engineering, or information technology)?
f. Master’s, Ph.D., or other graduate degrees with majors in science, engineering or information technology?

5.5. a. What percentage of your employees received external training in 2019?

b. What percentage of your employees received external training in 2019 related to new activities and tasks (i.e., not routine training)?
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)
- Kennesaw State University
- Other university (not Georgia Tech or Kennesaw State University))
- Small Business Development Centers (SBDC, provided by University of Georgia)
- Technical college (Technical College System of Georgia, 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 nonprofit business assistant source
- A private-sector business assistance source, such as a private consultant or vendor
- Another source not included in the above
- **Facility has not received outside business assistance**

6.2. In which of the following do **you or your managers** receive training or technical assistance? If you do not currently receive training or technical assistance, please indicate whether you or your managers would be interested in receiving training or technical assistance in any of the following areas. (Check all that apply.)

<table>
<thead>
<tr>
<th>Area</th>
<th>Currently Receive Assistance/Training</th>
<th>Do not Currently Receive, but Interested in Assistance/Training</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product design and development</td>
<td>❑</td>
<td>❑</td>
</tr>
<tr>
<td>Technology implementation</td>
<td>❑</td>
<td>❑</td>
</tr>
<tr>
<td>Marketing and sales growth</td>
<td>❑</td>
<td>❑</td>
</tr>
<tr>
<td>Lean manufacturing, 5S, process improvement</td>
<td>❑</td>
<td>❑</td>
</tr>
<tr>
<td>Supply chain development</td>
<td>❑</td>
<td>❑</td>
</tr>
<tr>
<td>Quality systems, ISO 9000, TS 16949</td>
<td>❑</td>
<td>❑</td>
</tr>
<tr>
<td>ISO 14000 environmental management certification</td>
<td>❑</td>
<td>❑</td>
</tr>
<tr>
<td>Finance and taxes</td>
<td>❑</td>
<td>❑</td>
</tr>
<tr>
<td>Safety and health, ergonomics</td>
<td>❑</td>
<td>❑</td>
</tr>
<tr>
<td>Energy efficiency and management</td>
<td>❑</td>
<td>❑</td>
</tr>
<tr>
<td>Materials and waste minimization</td>
<td>❑</td>
<td>❑</td>
</tr>
<tr>
<td>Additive manufacturing</td>
<td>❑</td>
<td>❑</td>
</tr>
<tr>
<td>Robotics</td>
<td>❑</td>
<td>❑</td>
</tr>
<tr>
<td>Cybersecurity</td>
<td>❑</td>
<td>❑</td>
</tr>
<tr>
<td>Internet of Things</td>
<td>❑</td>
<td>❑</td>
</tr>
<tr>
<td>Other topics <em>(please describe)</em></td>
<td>❑</td>
<td>❑</td>
</tr>
</tbody>
</table>

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 training in a category even if 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
- Check here if facility does not need/would not use non-managerial training

- Quality, lean manufacturing
- Basic computer skills (e.g., keyboarding, word processing, e-mail)
- Advanced computer skills (e.g., database, Web design)
- Other topics *(please describe)*

Please check any of the following boxes if you would like to receive information about:

- Georgia Tech’s industrial services, seminars, and workshops
- Kennesaw State University’s services, seminars, and workshops
- Georgia Department of Labor’s services, information, training
- Federal and state manufacturing tax incentives and credits
- Reducing indirect costs in the manufacturing and distribution process

(No individual information besides contact information for the company will be transmitted.)