

2007 Survey of Georgia's Independent Inventors



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2007 SURVEY OF GEORGIA'S INDEPENDENT INVENTORS

Prepared for

U.S. Economic Development Administration
Georgia's Participating Independent Inventors

Prepared by

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OVERVIEW

Convinced that a cache of creative capital resides in Georgia, researchers at Georgia Tech's Enterprise Innovation Institute launched an initiative in July 2006 to identify potential innovators — untapped catalysts for advancing productivity, innovation, and entrepreneurship in Georgia - and determine ways to assist them.

At the heart of the Innovator Assistance Pilot ProgramSM is the desire to advance productivity, innovation, and entrepreneurship among individuals within communities in Georgia. Potential innovators for this pilot program were identified as independent inventors who were not associated with a company, academic institution, or other organization and were holding patents for products not yet commercialized. These inventors — that is, potential innovators — have often accounted for the largest share of patents generated in Georgia, together outnumbering those owned by a single corporation or entity. Given that these patents have not yet been assigned to a corporation or entity, it is safe to say that these innovators have developed products — and creative capital — that have not yet been commercialized or put to productive use, and may represent untapped potential for economic development.

The mission of the pilot is to gain a better understanding of:

- (1) the unmet needs of the state's independent inventors,
- (2) ingredients that help to determine their success,
- (3) potential resources to help them,
- (4) effective practices in serving their needs, and
- (5) programmatic initiatives that could boost the potential for commercializing their products.

Why reach out to independent inventors? Collectively, they account for a larger share of patents than those owned by a single corporation or entity, including major research universities. Also, there appears to be a statewide need for assistance, as only seven counties in Georgia were not listed as home for an independent inventor since 1975. In addition, patent generation is accelerating among independent inventors, and it appears there may be untapped potential for commercialization and business creation whether it be through starting a company or partnering with an established entrepreneur or a manufacturer, licensing the product, or selling the patent outright.

In 2007, the Georgia Tech team launched the first comprehensive survey ever conducted of independent inventors statewide. The survey was created to determine the unmet needs of the independent inventor and major barriers to successfully turning their inventions into profitable ventures. It is evident that these barriers are experienced by many inventors in the United States. This report describes some of the key findings from Georgia Tech's research investigation.

THE STATE OF INDEPENDENT INVENTOR ACTIVITY¹

Independent inventors residing in Georgia as of 2006 totaled 6,845, and although the numbers were highest in metro Atlanta counties, 41 percent were located outside the region's five largest counties. Researchers found that all but seven of the state's 159 counties housed at least one such potential innovator. These independent inventors have obtained more than 7,741 patents since 1975, according to examination of U.S. Patent and Trademark Office data, with more than 3,000 being issued in the past 10 years.

Top Counties for Independent Inventors in Georgia

County	Inventors with Patents	Percent
Fulton	1,117	17.2%
DeKalb	861	12.6%
Cobb	811	11.8%
Gwinnett	646	9.4%
Cherokee	151	2.2%
Chatham	141	2.1%
Hall	127	1.9%
Clayton	119	1.7%
Bibb	113	1.7%
Richmond	113	1.7%
Clarke	99	1.4%
Muscogee	94	1.4%
Forsyth	91	1.3%

Source: U.S. Patent and Trademark Office, 1975 to March 2006

Surgery-related products accounted for the largest number of patents issued to Georgia's independent inventors. Static structures and electrical communications round out the top three classifications of products.

Product Classification	Patents
Surgery	1,167
Static Structures ²	815
Electrical Communications	621
Stock Material, Misc.	579
Liquid Purification / Separation	558
Drug, Bio-Affecting, etc.	529
Adhesive Bonding, Misc. Chem.	420
Special Receptacle / Package	413
Receptacles	412
Furnishings	409

Source: U.S. Patent and Trademark Office, 1975 to March 2006

¹ The research team created a customized database from the U.S. Patent and Trademark Office's (USPTO) database to capture Georgia independent inventors specifically, using a March 2006 dataset, the latest available at the onset of the Innovator Assistance Pilot Program in July 2006. The data had to go through a rigorous data recoding process for the customized use of this program. This data set was used as the basis for the initial identification of Georgia's independent inventors. Researchers have since compared data points from the latest USPTO data set and determined the differences were not significant. Given this observation and the March 2006 data set serving as the basis for identification of survey participants profiled in this report, the team determined there was no justification for repeating the data recoding process.

² Static structures include on-site erected structures generally identified by terms such as: civil engineering, public works, shelter, housing, buildings or masts and other related components used in such structures, e.g., panels, beams, columns, etc. Also, included are similar components such as, table top panels, poles, posts, window sash elements or door panels and processes, machines, and implements used in their construction.

PROFILING GEORGIA'S INDEPENDENT INVENTORS

In total, 331 of Georgia's independent inventors participated in the survey. During the 10-year period of 1996 to 2006, Georgia's independent inventors participating in the survey reported an average of three inventions each, suggesting that many might be "serial inventors." The participating inventors provided some key demographic information about themselves, which helps to describe Georgia's inventor community.

Geographic Origins

Independent inventors from 76 of Georgia's 159 counties participated in the survey. Where inventors hail from may greatly impact their invention experiences as well as their views about their experiences and available resources.

Fulton County accounted for the largest share (16.9 percent) of inventors participating in the survey, with Cobb (11.5 percent), Gwinnett (9.7 percent), DeKalb (7.6 percent), and Richmond (2.7 percent), rounding out the top five. Among Georgia's counties, these five counties are among those uniquely situated close to research universities, other major R&D activities, a critical mass of industries, and other assets. Although the state's independent inventors did not patent their products under an affiliation with such organizations, it is highly likely that proximity to such an environment has a positive and ripple effect-type bearing on inventiveness and creativity in the region. By contrast, the Heart of Georgia Region (Region 9), one of the state's largely rural regions, was least represented among participants in the survey.

The Atlanta region (Region 3) accounted for more than half (53.8 percent) of the participating inventors, but another 42.7 percent hailed from outside the state's most urbanized region. The Gainesville Region (Region 2) accounted for the second highest share (5.7 percent) of participants. The Athens (Region 5) and Augusta (Region 7) regions tied for the third highest share. A look by region demonstrates participation across Georgia and accurately reflects that creativity is evident in every corner of the state.

Participating Inventors by Region

Region	Number of Inventors	Percent
1	9	2.7%
2	19	5.7%
3	178	53.8%
4	12	3.6%
5	17	5.1%
6	15	4.5%
7	17	5.1%
8	11	3.3%
9	5	1.5%
10	9	2.7%
11	12	3.6%
12	14	4.2%
NA	13	3.9%

Inventor participation in the survey appeared to largely correspond with the level of patent activity by independent inventors, which has been more significant in metro areas than in rural areas. Still, this survey included participation by nearly two dozen inventors of rural residence.

Fourteen counties housed five or more of the participating inventors. Beyond the metro Atlanta area, this included counties in the Augusta, Gainesville, Columbus, Savannah, and Valdosta regions.

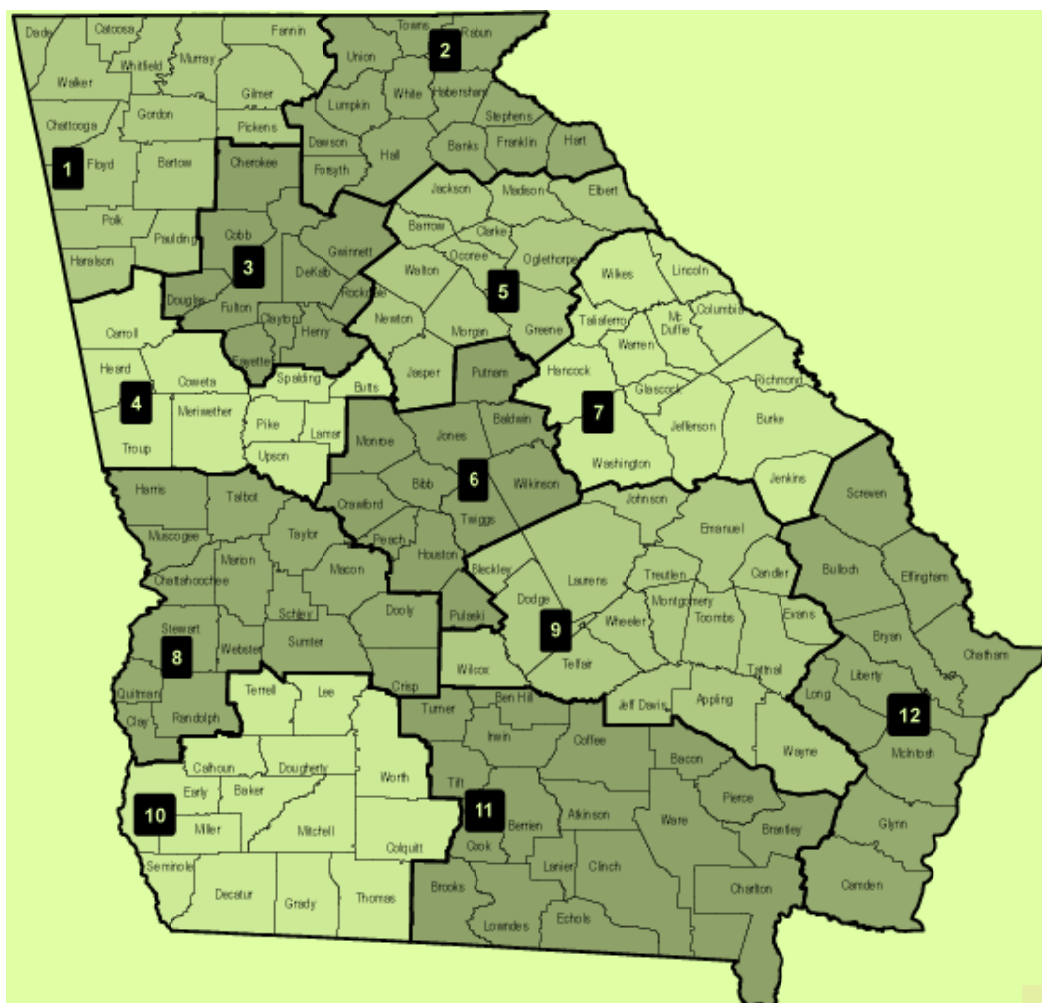
Counties with 5 or More Participating Inventors

County	Number of Inventors	Percent
Fulton	56	16.9%
Cobb	38	11.5%
Gwinnett	32	9.7%
DeKalb	25	7.6%
Richmond	9	2.7%
Cherokee	7	2.1%
Hall	7	2.1%
Clayton	6	1.8%
Muscogee	6	1.8%
Coweta	5	1.5%
Chatham	5	1.5%
Forsyth	5	1.5%
Fayette	5	1.5%
Lowndes	5	1.5%

Following is a full list of the counties represented in the survey.

Baldwin	Coweta	Hall	Paulding
Barrow	Crawford	Hart	Peach
Bartow	Crisp	Henry	Pierce
Bibb	Dawson	Houston	Pike
Brantley	DeKalb	Irwin	Pulaski
Bulloch	Dougherty	Jackson	Putnam
Calhoun	Douglas	Lanier	Rabun
Carroll	Early	Laurens	Richmond
Catoosa	Fayette	Liberty	Rockdale
Charlton	Floyd	Lincoln	Spalding
Chatham	Forsyth	Long	Sumter
Chattooga	Franklin	Lowndes	Tattall
Cherokee	Fulton	Lumpkin	Thomas
Clarke	Glynn	Madison	Troup
Clayton	Gordon	McDuffie	Walker
Cobb	Grady	Montgomery	Walton
Coffee	Greene	Morgan	Washington
Colquitt	Gwinnett	Muscogee	White
Columbia	Habersham	Newton	Whitfield

State Service Delivery Regions



Source: Georgia Department of Community Affairs, 2004

There were some differences in inventor participation by community type as well. For the purposes of defining the level of rural and urban homes of the inventor, inventors have been classified according to four types of communities: (1) the Atlanta Metropolitan Area Counties, (2) Non-Atlanta Metropolitan Counties, (3) Micropolitan Counties, and (4) Rural Counties. Observations comparing inventors from these various community types are provided in various sections of the report. The classification of these counties is based on definitions by the U.S. Census Bureau.

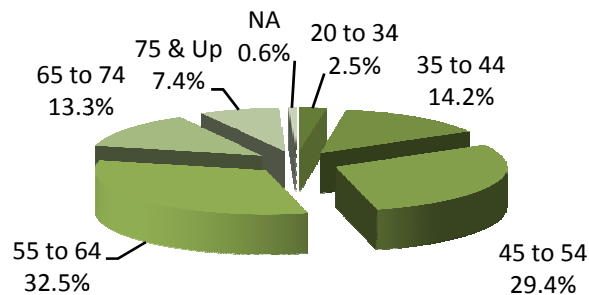
Participating Inventors by Community Type

Community Type	Inventors	Percent
Atlanta 10-County Metro	178	53.8%
Non-Atlanta Metro County	91	27.5%
Micropolitan County	27	8.2%
Rural County	22	6.6%
NA	13	3.9%

Age

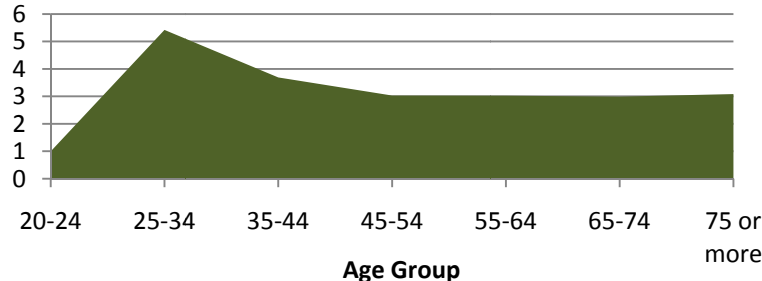
More than half (61.9 percent) of the participating inventors were between the ages of 45 and 64, with the 55-to-64-age group accounting for the largest share of inventors surveyed and the 45-to-54-age group accounting for the second largest share. The third largest share of the participating inventors fell between the ages of 35 and 44. The median age group for the participating inventors was 55 to 64.

Age of Independent Inventors



Although the older age groups accounted for more of the inventors participating in the survey, there appears to be a greater proclivity toward invention among those in the younger age groups. For example, those inventors between 25 and 34 reported having created an average of 5.4 inventions during the past 10 years, while those in the older age groups reported an average of 3 inventions during the same time period.

Average Number of Inventions, 1996-2006



Age of Inventors by Community Type

Age	Atlanta Metropolitan Area	Non-Atlanta Metropolitan Counties	Micropolitan Counties	Rural Counties
20-24	0.6%	0.0%	0.0%	0.0%
25-34	0.3%	2.2%	0.0%	0.0%
35-44	1.8%	8.9%	15.4%	9.1%
45-54	11.7%	32.2%	30.8%	18.2%
55-64	24.4%	36.7%	38.5%	31.8%
65-74	25.4%	17.8%	0.0%	27.3%
75 or more	11.1%	2.2%	15.4%	13.6%

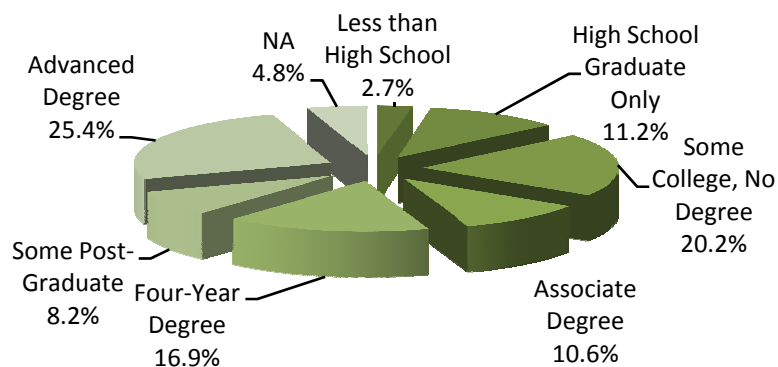
Notes: Micropolitan and rural counties each include a small fraction of the inventors in this survey so percentages reflect relatively small numbers when compared to the Atlanta metro and Non-Atlanta metro counties. This table reflects data for only those inventors who chose to respond to this question, which included 174 of the 178 participating metro Atlanta inventors, 90 of the 91 non-Atlanta metro inventors, 26 of the 27 micropolitan inventors, and all of the 22 rural inventors.

Overall, inventors representing rural counties were older than their counterparts in the metro counties. There were no inventors who participated in the survey between the ages of 20 and 34 from these counties, and inventors who were 65 years old or more accounted for larger shares of inventors from these areas than the other geographic counterparts.

Educational Achievement

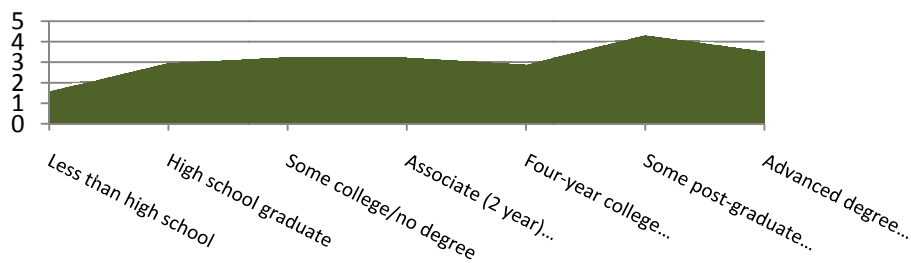
Georgia's independent inventors appear to be well-educated overall. The vast majority were at least high school graduates, with less than 3 percent indicating they were not. More than half (50.4 percent) had at least a four-year college degree, including over one-fourth (26.4 percent) who had earned an advanced degree (master's, Ph.D., M.D., or J.D.).³

Educational Attainment of Independent Inventors



There appeared to be some correlation between level of education and average number of inventions reported by the inventors - that is, the higher the education, the higher the tendency to invent.

Average Number of Inventions, 1996-2006



Educational achievement among inventors appeared to have some correlation with their proximity to more urbanized settings as, overall, inventors in rural counties were not as educated as those in micropolitan and metropolitan counties. Over one-third (33.7 percent) of the inventors in the Atlanta Metropolitan Area reported to have an advanced degree. The numbers of inventors with advanced degrees in the other community types were notably lower but also appeared to be relatively on par with each other. Rural counties accounted for a higher percentage of inventors with less

³ This corresponds with a study by Weick and Eakin in 2005, which found that over half of independent inventors, nationwide, had achieved at least a four-year degree.

than a high school degree or only a high school degree than its other geographic counterparts.

Educational Achievement by Inventors by Community Type

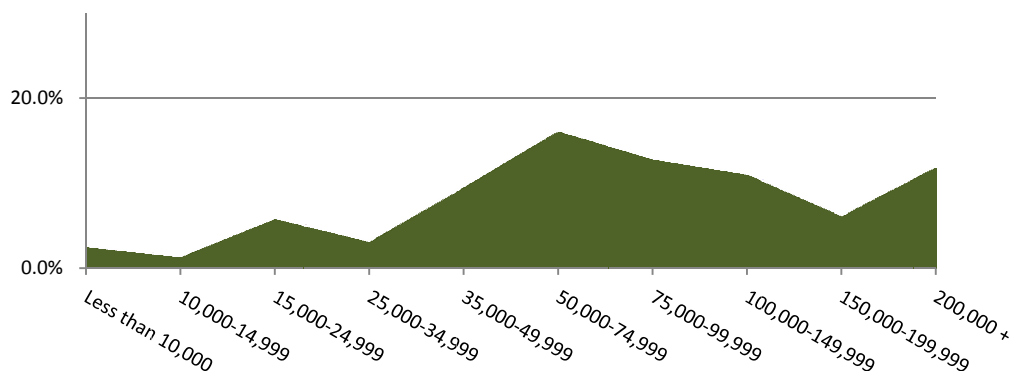
	Atlanta Metropolitan Area	Non-Atlanta Metropolitan Counties	Micropolitan Counties	Rural Counties
Less than high school	1.7%	4.5%	0.0%	9.1%
High school graduate	9.7%	9.1%	20.8%	27.3%
Some college/no degree	17.7%	28.4%	20.8%	22.7%
Associate (2 year) degree	8.0%	15.9%	16.7%	9.1%
Four-year college graduate	18.9%	17.0%	25.0%	4.5%
Some post-graduate study	10.3%	6.8%	0.0%	9.1%
Advanced degree (master's, Ph.D., M.D., J.D.)	33.7%	18.2%	16.7%	18.2%

Notes: Micropolitan and rural counties each include a small fraction of the inventors in this survey so percentages reflect relatively small numbers when compared to the Atlanta metro and Non-Atlanta metro counties. This table reflects data for only those inventors who chose to respond to this question which included 175 of the 178 participating metro Atlanta inventors, 88 of the 91 non-Atlanta metro inventors, 24 of the 27 micropolitan inventors and all of the 22 rural inventors.

Income Level

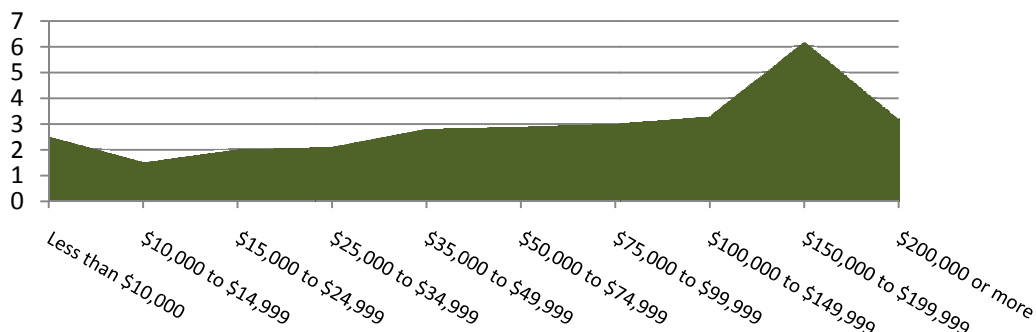
There appears to be a tendency among Georgia's independent inventors to belong to moderately high to higher income households. The median household income range for surveyed inventors was \$75,000 to \$99,000. This finding corresponds with the observations about education, given that personal wealth tends to increase with level of education. The largest share (16 percent) of inventors hailed from households with incomes ranging from \$50,000 to \$74,999. One-fifth (20.8 percent) of the inventors did not share their income level. The following chart shows the distribution of inventors by income category for those who reported such information.

Household Income of Georgia Inventors



As was the case with education level, there appeared to be some correlation between income level and the average number of inventions reported by the inventors during the period of 1996 to 2006.

Average Number of Inventions, 1996-2006



There appears to be a breakpoint around \$35,000 to \$49,000 where the rate of patenting picks up. This change could indicate the presence of sufficient disposable income to invest in patents and the invention process, whereas lower income households may not be able to afford these services.

There did not appear to be significant relationships between average household income and the type of community inventors lived in. Inventors generally appear to have a fair to significant amount of personal wealth, regardless of their geography.

Income Level by Inventors by Community Type

	Atlanta Metropolitan Area	Non-Atlanta Metropolitan Counties	Micropolitan Counties	Rural Counties
Less than \$10,000	4.2%	2.7%	0.0%	0.0%
\$10,000 to \$14,999	1.4%	0.0%	4.5%	5.3%
\$15,000 to \$24,999	2.8%	10.8%	18.2%	10.5%
\$25,000 to \$34,999	3.5%	4.1%	4.5%	5.3%
\$35,000 to \$49,999	11.8%	10.8%	13.6%	10.5%
\$50,000 to \$74,999	20.1%	23.0%	13.6%	21.1%
\$75,000 to \$99,999	13.2%	23.0%	13.6%	15.8%
\$100,000 to \$149,999	18.1%	8.1%	4.5%	15.8%
\$150,000 to \$199,999	9.0%	5.4%	9.1%	5.3%
\$200,000 or more	16.0%	12.2%	18.2%	10.5%

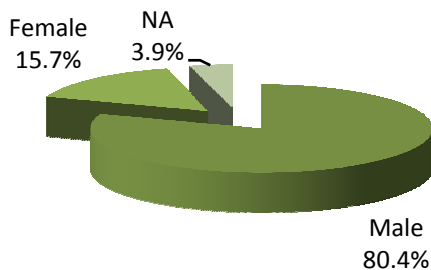
Notes: Micropolitan and rural counties each include a small fraction of the inventors in this survey so percentages reflect relatively small numbers when compared to the Atlanta metro and Non-Atlanta metro counties. This table reflects data for only those inventors who chose to respond to this question which included 144 of the 178 participating metro Atlanta inventors, 74 of the 91 non-Atlanta metro inventors, 22 of the 27 micropolitan inventors and 19 of the 22 rural inventors.

Gender

The majority (80.4 percent) of Georgia's independent inventors participating in the survey were male.⁴

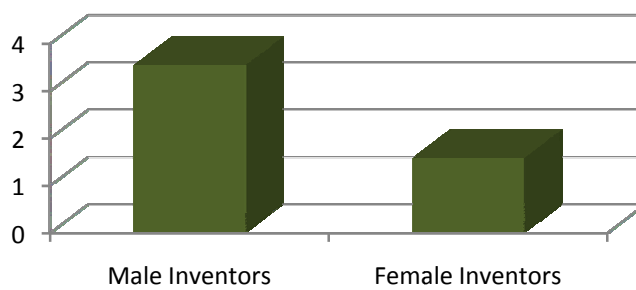
⁴ Weick and Eakin⁴, in their 2005 nationwide study, also found independent inventors to be predominantly male (82 percent).

Gender of Independent Inventors



Not only were male inventors more heavily represented in the survey, they also reported a much higher average number of inventions during the 1996-2006 period than the female inventors did.

Average Number of Inventions, 1996-2006



There did not appear to be much difference in gender represented by inventors in the Atlanta metropolitan and non-Atlanta metropolitan areas. Micropolitan counties appeared to have a higher representation of male inventors. Women accounted for a higher percentage of the inventors in rural counties (20 percent) than in the metropolitan counties. However, the observations concerning inventors in micropolitan and rural locales are tempered some by the relatively small numbers of inventors from such locales participating in the survey.

Gender by Inventors by Community Type

	Atlanta Metropolitan Area	Non-Atlanta Metropolitan Counties	Micropolitan Counties	Rural Counties
Male	83.4%	83.3%	88.9%	80.0%
Female	16.6%	16.7%	11.1%	20.0%

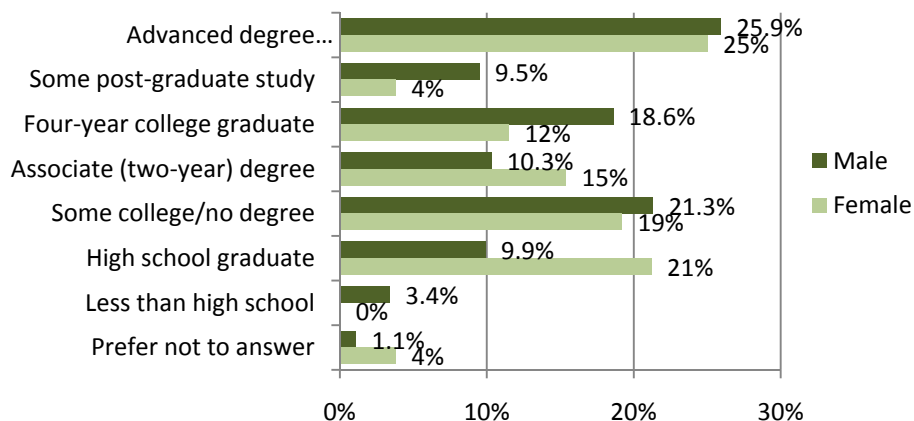
Notes: Micropolitan and rural counties each include a small fraction of the inventors in this survey so percentages reflect relatively small numbers when compared to the Atlanta metro and Non-Atlanta metro counties. This table reflects data for only those inventors who chose to respond to this question which included 175 of the 178 participating metro Atlanta inventors, 90 of the 91 non-Atlanta metro inventors, all of the 27 micropolitan inventors and 20 of the 22 rural inventors.

A greater share of the male inventors had both a college or advanced degree, relative to females, and a greater share of women did not have education beyond high school.

Gender by Education

	Male	Female
Advanced degree	25.9%	25.0%
Some post-graduate study	9.5%	3.8%
Four-year college graduate	18.6%	11.5%
Associate (two-year) degree	10.3%	15.4%
Some college/no degree	21.3%	19.2%
High school graduate	9.9%	21.2%
Less than high school	3.4%	0.0%
Prefer not to answer	1.1%	3.8%

Gender and Education

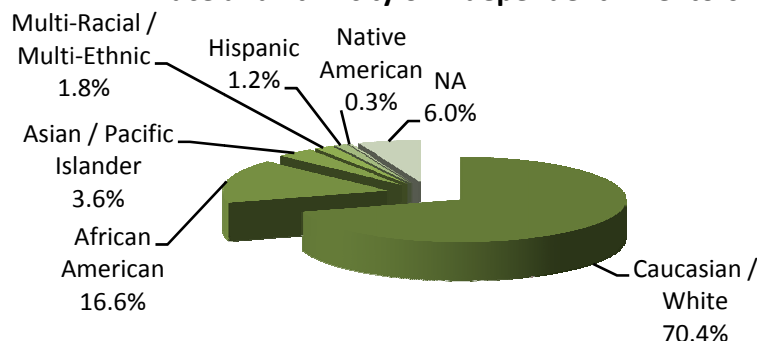


Race and Ethnicity

Most (70.4 percent) of the inventors participating in the survey reported to be of Caucasian background; however, nearly one-fourth reported to be of non-Caucasian background. African-Americans accounted for the second largest share (16.6 percent) of the participating inventors, while those of Asian or Pacific Islander descent followed, but to a distant degree, with the third highest share (3.6 percent).

Regarding inventors in the top three racial and ethnic groups represented, Caucasian inventors reported a higher average number (3.44) of inventions during the period of 1996 to 2006. Asian / Pacific Islander inventors reported an average of 2.55 inventions and African-American inventors reported an average of 2.46 inventions during this time.

Race and Ethnicity of Independent Inventors



Inventors of African-American descent accounted for a notably higher share of participating inventors in metropolitan areas than they did elsewhere, whereas Caucasian inventors accounted for a higher share of the inventors from micropolitan and rural counties. A small number of inventors of other ethnic or racial groups such as Asian / Pacific Islander and Hispanic were among those participating from the more urbanized settings of the state.

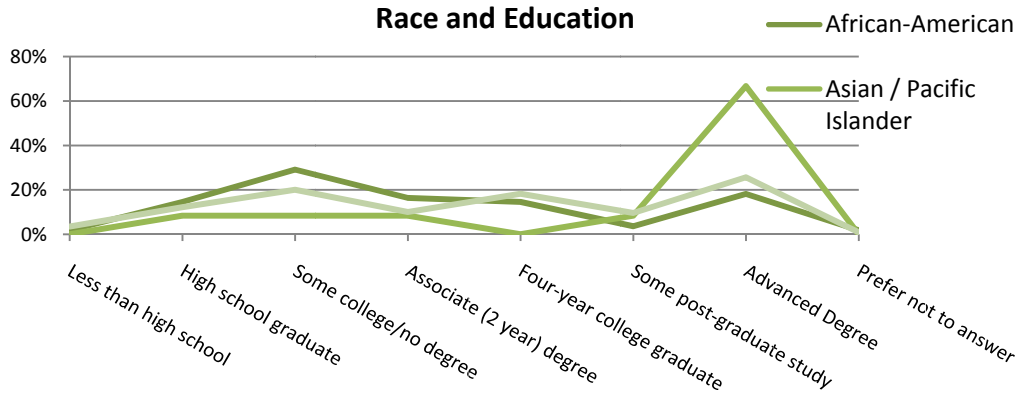
Race / Ethnicity by Inventors by Community Type

	Atlanta Metropolitan Area	Non-Atlanta Metropolitan Counties	Micropolitan Counties	Rural Counties
African American	18.8%	20.5%	8.0%	9.1%
Asian / Pacific Islander	5.3%	1.1%	4.0%	0.0%
Caucasian / White	72.9%	72.7%	88.0%	86.4%
Hispanic	1.2%	2.3%	0.0%	0.0%
Native American	0.6%	0.0%	0.0%	0.0%
Multi-Racial / Multi-Ethnic	1.2%	3.4%	0.0%	4.5%

Notes: Micropolitan and rural counties each include a small fraction of the inventors in this survey so percentages reflect relatively small numbers when compared to the Atlanta metro and Non-Atlanta metro counties. This table reflects data for only those inventors who chose to respond to this question which included 170 of the 178 participating metro Atlanta inventors, 88 of the 91 non-Atlanta metro inventors, 25 of the 27 micropolitan inventors and 22 of the 22 rural inventors.

When considering education level of inventors by race and ethnicity, there does not appear to be much differentiation, with the exception of a greater share of advanced degrees seen among the Asian / Pacific Islander inventors.

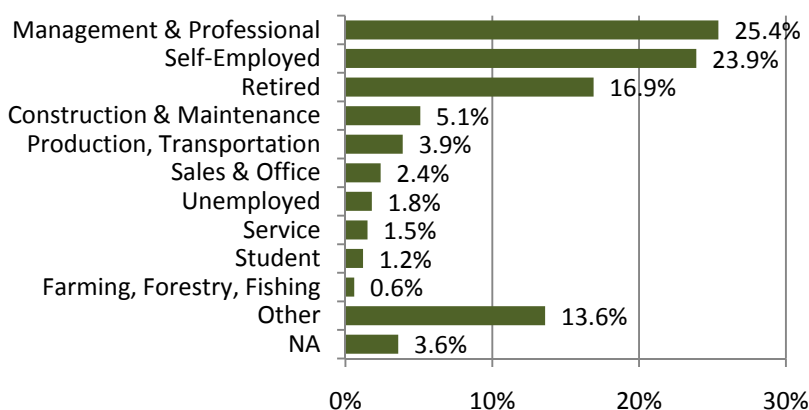
Race and Education



Occupation

The largest share – over one-fourth (25.4 percent) – of the participating inventors reported holding management and professional occupations. Nearly one-fourth (23.9 percent) reported to be self-employed. Retirees accounted for third highest share of participating inventors. These observations correspond to those regarding age, education, and income, as together they denote individuals fairly settled in life who occupy a certain socioeconomic status. Persons who were unemployed, in service occupations (child care, cosmetology, etc.), or in student roles accounted for fairly small shares of the participation. Those in farming, forestry, and fishing occupations accounted for the smallest share of participants. Those reporting construction and maintenance occupations reported the highest average number of inventions (4.0) during the 1996 to 2006 period of any of the occupations. This was followed by those who indicated they were self employed (3.85) and those who indicated they were Retired (3.26).

Occupation of Independent Inventors



When reviewing the inventors' occupations by gender, women were least represented in the farming, forestry, fishing; construction and maintenance; production, transportation, material moving; and self-employed categories. The only occupation that saw greater female than male participation was in the student category where all four participants were female. Women also accounted for one-third of those reporting to be unemployed.

Gender and Occupation

	Male	Female	Total Number
Student	0.0%	100.0%	4
Management and Professional	85.4%	14.6%	82
Service (child care, cosmetology, etc.)	80.0%	20.0%	5
Sales and Office	87.5%	12.5%	8
Farming, Forestry, Fishing	100.0%	0.0%	2
Construction and Maintenance	100.0%	0.0%	16
Production, Transportation, Material Moving	92.3%	0.0%	13
Unemployed	66.7%	33.3%	6
Self-Employed	89.6%	9.1%	77
Retired	82.1%	16.1%	56
Other	73.3%	26.7%	45

Some differences became apparent when reviewing inventor occupations by geographic locale. Those inventors holding management and professional jobs mostly resided in the metropolitan areas. Retired inventors were more concentrated in micropolitan and rural areas. Also, as one might expect, workers in the farming, forestry, and fishing sector were from micropolitan and rural counties. Self-employed inventors appeared to be located in metro and rural areas alike.

Occupations of Inventors by Community Type

	Atlanta Metropolitan Area	Non-Atlanta Metropolitan Counties	Micropolitan Counties	Rural Counties
Management and Professional	31.8%	22.2%	23.1%	9.1%
Self-Employed	26.0%	27.8%	7.7%	27.3%
Retired	13.3%	18.9%	23.1%	27.3%
Construction and Maintenance	5.8%	4.4%	3.8%	9.1%
Production, Transportation, Material Moving	3.5%	3.3%	7.7%	0.0%
Sales and Office	4.0%	0.0%	0.0%	4.5%
Unemployed	2.9%	1.1%	0.0%	0.0%
Service	2.3%	0.0%	3.8%	0.0%
Student	1.2%	1.1%	0.0%	4.5%
Farming, Forestry, Fishing	0.0%	0.0%	3.8%	4.5%
Other	9.2%	21.1%	26.9%	13.6%

Notes: Micropolitan and rural counties each include a small fraction of the inventors in this survey so percentages reflect relatively small numbers when compared to the Atlanta metro and Non-Atlanta metro counties. This table reflects data for only those inventors who chose to respond to this question which included 173 of the 178 participating metro Atlanta inventors, 90 of the 91 non-Atlanta metro inventors, 26 of the 27 micropolitan inventors and all of the 22 rural inventors.

INVENTION BANDWIDTH IN GEORGIA

Independent invention activity has been accelerating in Georgia. A review of patents issued to independent inventors in the 1996-2006 period showed a significant increase over those issued to such inventors during the previous decade.

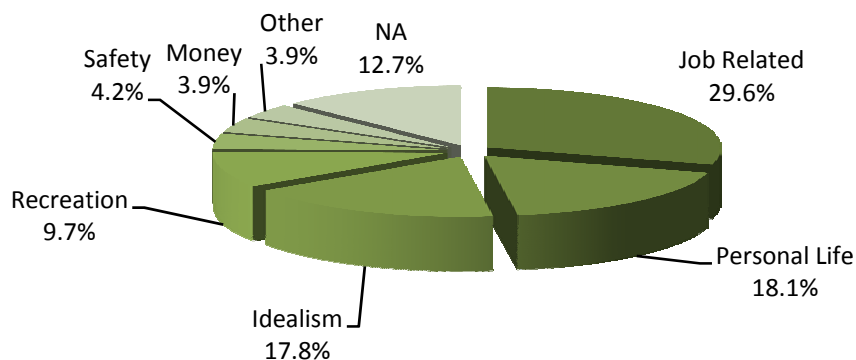
Through the survey, inventors were asked to describe their level of invention activity and their experiences associated with efforts in commercialization.

Motivation

When asked about what motivated them to create their invention(s), the independent inventors cited reasons related to their job more than any other, with such reasons accounting for 29.6 percent of all responses given. Factors relating to their personal life were the second most frequently mentioned. Interestingly, money was mentioned as a motivator to only a small degree.

Category	Definition
Make Personal Life Easier	A non-work-related need or problem in the inventor's life
Job Related	A need, problem, or potential efficiency recognized because of the inventor's line of work
Recreational	Used for, or related to, recreational activities
Idealism	Motivated by or aimed at solving environmental, public interest, economic development, and/or humanitarian or similar interests
Money	Motivated by the desire for financial gain or to become financially independent
Safety	Motivated by concern for one's own, or others', safety
Other/Ambiguous	Motivation description was insufficient to draw conclusions

Motivational Factors



Motivation for Invention	Number	Percent
Job-Related	98	29.6%
Personal Life	60	18.1%
Idealism	59	17.8%
Recreation	32	9.7%
Safety	14	4.2%
Money	13	3.9%
Other	13	3.9%
NA	42	12.7%

Job-related factors were frequently mentioned by inventors in urban and rural areas alike, although to a lesser degree in the rural areas. The order of factors did not appear to shift much according to geographic type, with the exception of money where it appeared a more important consideration among the rural inventors than inventors elsewhere. Safety did not appear to be a motivator among the rural inventors.

Motivational Factors by Inventors by Community Type

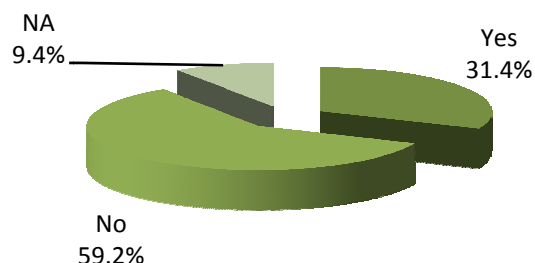
	Atlanta Metropolitan Area	Non-Atlanta Metropolitan Counties	Micropolitan Counties	Rural Counties
Job-Related	38.0%	31.5%	26.1%	21.1%
Personal Life	19.3%	23.9%	21.7%	21.1%
Idealism	19.3%	22.8%	21.7%	21.1%
Recreation	10.0%	8.7%	17.4%	15.8%
Safety	4.7%	4.3%	8.7%	0.0%
Money	3.3%	5.4%	0.0%	15.8%
Other	5.3%	3.3%	4.3%	5.3%

Notes: Micropolitan and rural counties each include a small fraction of the inventors in this survey so percentages reflect relatively small numbers when compared to the Atlanta metro and Non-Atlanta metro counties. This table reflects data for only those inventors who chose to respond to this question which included 115 of the 178 participating metro Atlanta inventors, 68 of the 91 non-Atlanta metro inventors, 18 of the 27 micropolitan inventors and 14 of the 22 rural inventors.

Commercial Success

Inventors were asked to relate whether their inventions achieved commercial success. More than half (59.2 percent) reported to not have achieved success at the time of the survey. Approximately 31.4 percent of the inventors reported that they did achieve some commercial success for at least one of their inventions. Another 9.4 percent declined to say whether they've been successful.

Independent Inventors Achieving Commercial Success



Although many inventors reported to having not achieved commercial success, those in rural parts of the state reported to have a higher success rate (40 percent) than those in other areas.

Commercial Success by Community Type

	Atlanta Metropolitan Area	Non-Atlanta Metropolitan Counties	Micropolitan Counties	Rural Counties
Yes	35.4%	30.2%	33.3%	40.0%
No	64.6%	69.8%	66.7%	60.0%

Notes: Micropolitan and rural counties each include a small fraction of the inventors in this survey so percentages reflect relatively small numbers when compared to the Atlanta metro and Non-Atlanta metro counties. This table reflects data for only those inventors who chose to respond to this question which included 158 of the 178 participating metro Atlanta inventors, 86 of the 91 non-Atlanta metro inventors, 24 of the 27 micropolitan inventors and 20 of the 22 rural inventors.

More than one-fourth (25.1 percent) of the inventors reported that they had achieved commercial success through independent production and sales of one or more of their patented products, which would indicate they directly wrapped some type of company or business enterprise around their invention. These inventors accounted for the vast majority (79.8 percent) of those inventors reporting success. Licensing patents to another entity appeared to be the second most successful vehicle to commercialization, with 8.8 percent of all inventors – or more than one-fourth (27.9 percent) of successful inventors – reporting they had achieved success through such a path for one or more of their inventions. Another 4.5 percent said they had achieved success through assigning or selling one or more of their patents to another entity.

Vehicles to Commercial Success for Independent Inventors

Commercial Success Vehicle	Number	Percent of All Inventors	Percent of Successful Inventors*
Independent Production and Sales	83	25.1%	79.8%
Licensing to Another Entity	29	8.8%	27.9%
Selling to Another Entity	15	4.5%	14.4%

*Data will not add up to 100 percent as some inventors reported success through more than one vehicle.

Additionally, it appears that several inventors had achieved commercialization success through more than one avenue. Of the 83 inventors achieving success through independent production and sales, 12 had also achieved success through licensing to

another entity and eight had achieved success through selling the rights to their invention. Of the 29 inventors achieving success through licensing to another entity, 12 had succeeded through independent production and sales and eight had done so through patent sale. And of the 15 inventors who achieved success through sale of their patent, eight did so through independent production and sales and six had found success through licensing to another entity.

Clearly, most inventors preferred to retain control over the commercialization of their product. However, just a fraction of these inventors achieved success through other vehicles. Alternatively, it can be observed that among those who achieved success through less direct methods such as licensing or sale of their patented product, there appeared to be a greater share of inventors who also achieved success through another vehicle.

Inventors Pursuing Multiple Modes of Commercialization			
Success Vehicle	independent production and sales	licensing to another entity	assigning (selling) to another entity
independent production and sales	83	12	8
licensing to another entity	12	29	6
assigning (selling) to another entity	8	6	15

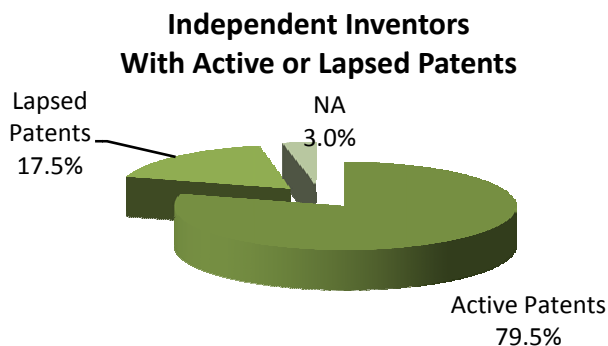
Independent production and sales was the most common vehicle to success, regardless of community type. However, there were some differences in scale. Inventors in rural counties appeared to find this route to be most successful as it accounted for 35 percent of such inventors indicating success. Selling to another entity did not appear to be a successful vehicle for these inventors. Greater shares of inventors in non-Atlanta metropolitan and micropolitan counties, that is, counties surrounding mid-size and smaller cities appeared to find such vehicles successful routes, even more so than those located in the Atlanta metro area.

Vehicles to Commercial Success by Community Type				
Success Vehicle	Atlanta Metropolitan Area	Non-Atlanta Metropolitan Counties	Micropolitan Counties	Rural Counties
Independent Production and Sales	27.9%	26.7%	29.2%	35.0%
Licensing to Another Entity	10.3%	8.9%	13.0%	5.6%
Selling to Another Entity	3.5%	8.8%	9.1%	0.0%

Notes: Micropolitan and rural counties each include a small fraction of the inventors in this survey so percentages reflect relatively small numbers when compared to the Atlanta metro and Non-Atlanta metro counties. This table reflects data for only those inventors who chose to respond to this question. For those providing information on their experiences regarding independent production and sales, this included 154 of the 178 participating metro Atlanta inventors, 86 of the 91 non-Atlanta metro inventors, 24 of the 27 micropolitan inventors and 20 of the 22 rural inventors. For inventors providing information on their experiences regarding licensing, this included 146 of the 178 participating metro Atlanta inventors, 79 of the 91 non-Atlanta metro inventors, 23 of the 27 micropolitan inventors and 18 of the 22 rural inventors. For those providing information on their experiences regarding selling their invention, this included 142 of the 178 participating metro Atlanta inventors, 80 of the 91 non-Atlanta metro inventors, 22 of the 27 micropolitan inventors and 18 of the 22 rural inventors.

Current Efforts Toward Commercialization

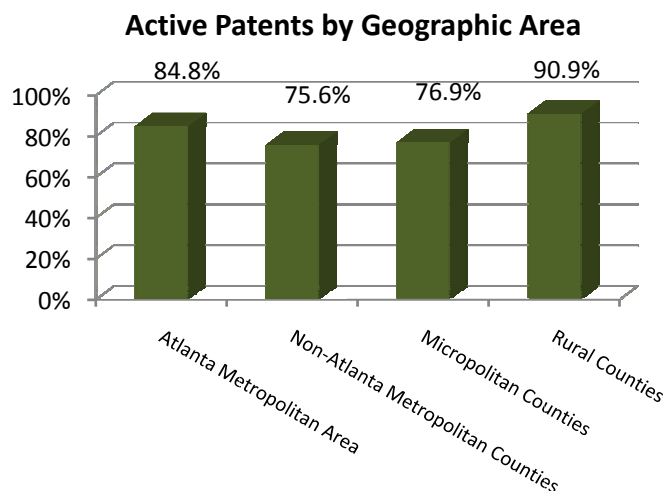
More than three-quarters (79.5 percent) of the participating inventors reported that they held at least one active patent at the time of the survey – that is, a patent that had not lapsed or been abandoned.



Not only are inventors holding their patents, but many are actively seeking various avenues for commercialization, with a number of them seeking more than one such path. Following is the breakdown of the various efforts reported by the inventors at the time of the survey.

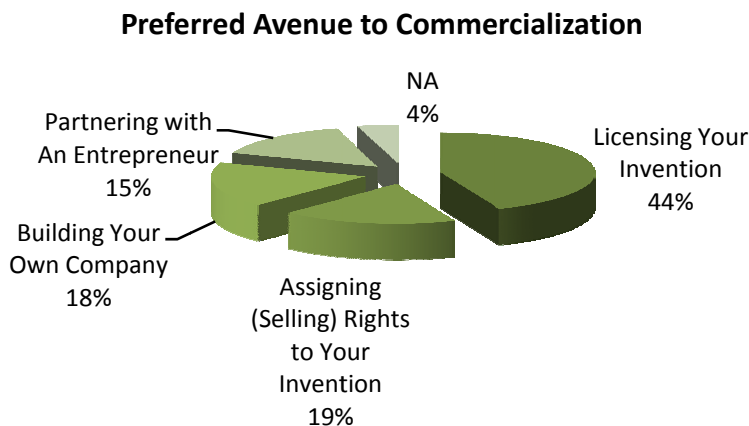
- The largest share (57.7 percent) of inventors reported to be pursuing opportunities to sell or assign the rights to their patented inventions outright.
- More than half (56.2 percent) indicated they were seeking licensing agreements on patented, but so far uncommercialized, inventions.
- Exploring opportunities to partner with an entrepreneur or actively partnering with one was also reported to be under way by more than half of the inventors. Specifically, 44.1 percent indicated they were seeking an entrepreneur partner and another 9.1 percent said they were already working with one.
- When asked whether they were working to create their own company to commercialize and market their patent, approximately 43.8 percent of the inventors said they were actively doing so while just over half (52 percent) indicated they were not.

When considering geographic origins, a greater share of inventors from rural locales reported to be active patent holders.



Preferred Pathway to Commercialization

Despite reporting a fair degree of success in commercialization through independent production and sales, the surveyed inventors appeared to be more interested in ways to achieve success outside of direct involvement in business development, as observed when reviewing their reported current efforts.



When asked what appeals to them more, independent inventors said they preferred licensing their invention to an existing company more than other vehicles, accounting for 43.8 percent of the responses. The outright selling or assignment of rights to the patent accounted for another 18.8 percent. Together, these two non-business development vehicles to commercial success accounted for 62.6 percent of the inventors.

The least preferred pathway to commercialization among the inventors appeared to be partnering with an entrepreneur, despite the reported efforts underway to do so. Building their own company appeared to be preferred by less than one-fifth of the inventors. Such lack of interest is even more apparent among inventors in rural counties, as only 5 percent reported they preferred to build their own company.

Preferred Avenue to Commercialization by Community Type

Preferred Avenue	Atlanta Metropolitan Area	Non-Atlanta Metropolitan Counties	Micropolitan Counties	Rural Counties
Building your own company	24.3%	15.4%	11.5%	5.0%
Partnering with an entrepreneur	18.3%	15.4%	7.7%	15.0%
Licensing your invention	43.2%	46.2%	53.8%	55.0%
Assigning (selling) the rights	14.2%	23.1%	26.9%	25.0%

Notes: Micropolitan and rural counties each include a small fraction of the inventors in this survey so percentages reflect relatively small numbers when compared to the Atlanta metro and Non-Atlanta metro counties. This table reflects data for only those inventors who chose to respond to this question which included 169 of the 178 participating metro Atlanta inventors, all of the 91 non-Atlanta metro inventors, 26 of the 27 micropolitan inventors and 20 of the 22 rural inventors.

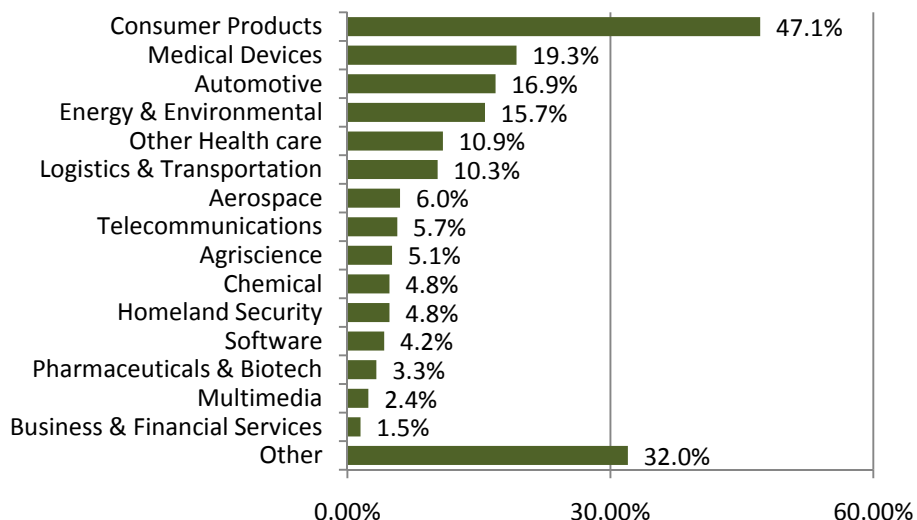
What is interesting is that the inventors' preferences do not appear to correlate with their actual previous taste of commercialization success. As noted earlier in this report, more than three-quarters (79.8 percent) of the inventors who had achieved success did so through independent production and sales which would indicate some type of business enterprise. Just a fraction of the inventors had achieved success through the two non-business development vehicles.

Industrial Applications

Inventors were asked to report on the industrial product categories in which they've created inventions. Nearly half (47.1 percent) of the inventors reported to have invented products in the consumer products area. Regarding the non-consumer products categories, medical devices and equipment (19.3 percent), automotive (16.9 percent), and energy and environmental (15.7 percent) rated fairly high in terms of inventors' reporting products in these areas. The category of "other health care" accounted for the fourth highest share of reported activity. Similarly, logistics and transportation also garnered a significant amount of mention, also interesting given the prevalence of automotive-related inventions reported.

These findings imply a certain level of natural innovation occurring within key industry sectors of the economy in Georgia and perhaps might provide some indication for "emerging" growth sectors. Although it is difficult to ascertain why these industrial areas account for such levels of creativity, these findings suggest that Georgia may hold some advantages in these areas given a global economy based on innovation.

Independent Inventors by Industry Area (Percent of Inventors)



Notes: Data will not add up to 100 percent as several inventors reported their product or products to have relevance to more than one industry. Industrial applications are explored more in more detail in the “A Closer Look at Industry” section of this report.

Although more than half of the inventors (54.1 percent) had reported to invent in only one industrial category, a significant share (43.5 percent) had reported inventions in two or more categories.

Number of Industries Selected	Respondents	% of Respondents
1	179	54.1%
2	61	18.4%
3	41	12.4%
4	29	8.8%
5	2	0.6%
6	5	1.5%
7	4	1.2%
Greater than 7	2	0.6%

Some industry areas had a higher degree of mention than others. For example, consumer products had the highest degree of mention by inventors identifying more than one industry. Automotive, energy and environmental, and medical devices and equipment were also significant industries where this occurred. Some relationships were expected, such as the 15 occurrences of when inventors identified both automotive and logistics and transportation, and the 12 occurrences when inventors identified both automotive and aerospace. Others were less reflective of a natural relationship, such as a relationship between medical devices and equipment and the automotive industry.

Frequency of Industry Mentions by Inventors

	Industry Mentions		<u>Inventors</u>
	Number	Percent	Percent
Aerospace	20	3.2%	6.0%
Agriscience	17	2.7%	5.1%
Automotive	56	8.9%	16.9%
Business & Financial Services	5	0.8%	1.5%
Chemical	17	2.7%	5.1%
Consumer Products	154	24.4%	46.5%
Energy, Environmental	51	8.1%	15.4%
Homeland Security	16	2.5%	4.8%
Logistics, Transportation	34	5.4%	10.3%
Medical Devices and Equipment	64	10.2%	19.3%
Multimedia	8	1.3%	2.4%
Other	107	17.0%	32.3%
Other Health care	36	5.7%	10.9%
Pharmaceuticals and Biotech	12	1.9%	3.6%
Software	14	2.2%	4.2%
Telecommunications	19	3.0%	5.7%

RESOURCES ACCESSED BY INVENTORS

To determine how best to serve Georgia's independent inventors, the survey asked them to indicate what resources they accessed, whether such resources were of value to them, and to evaluate specific types of assistance they received.

Accessed Resources

Inventors were asked whether they had ever received information, advice, or technical assistance with developing or commercializing an invention from various available resources.

When asked what was the single most valuable source of outside assistance enabling them to be successful, the largest share (20.9 percent) of inventors indicated that there was no such single source. Another 14.4 percent, the second highest share, of inventors identified patent attorneys or sources to find information on patents as the most valuable source. Tying for the third largest share (at 9.6 percent each) of sources of assistance identified as most valuable by the inventors were (1) some form of event or networking group and (2) manufacturing and prototyping assistance.

The top three tapped resources for Georgia's independent inventors appeared to be of a non-localized nature, specifically: (1) patent attorneys, (2) the U.S. Patent and Trademark Office (USPTO) and (3) Internet sites. Private resources such as marketing and engineering consultants rounded out the top five. Other resources notably utilized included patent agents, public libraries, university resources, the Small Business Development Centers, and inventors clubs or associations.

Most Utilized Resources for Inventors

	Source of Assistance	Utilization
1	Patent Attorneys	62.5%
2	U.S. Patent and Trademark Office	30.8%
3	Internet Sites	19.9%
4	Marketing Consultants	16.0%
5	Engineering Consultants	15.7%
6	Patent Agents	15.7%
7	Public Libraries	14.5%
8	University Resources	14.2%
9	Small Business Development Center (SBDC)	12.4%
10	Inventor Clubs or Associations	10.9%

Patent attorneys were most frequently utilized in conjunction with other resources. Use of certain resources increased the tendency of using a patent attorney. For example, 83.3 percent of those accessing public libraries, 78.7 percent of those using resources by universities, and 81.4 percent of those accessing the USPTO also used a patent attorney. The USPTO was the next most common resource to be used in conjunction with others. Such trends reflect the regulatory nature of applying for and receiving a patent.

Geographically, there were some differences in the reported use of resources. The usage of Internet sites, for example, decreased with increasing location in rural areas. This may in part correlate with lower Internet accessibility in rural locations. Also, the

share of metro area inventors reporting the use of public libraries was almost twice that of those in the non-metro areas.

Most Utilized Resources by Community Type

Source of Assistance	Atlanta Metropolitan Area	Non-Atlanta Metropolitan Counties	Micropolitan Counties	Rural Counties
Patent Attorneys	61.8%	61.5%	63.0%	63.6%
U.S. Patent and Trademark Office	30.3%	34.1%	33.3%	22.7%
Internet Sites	21.9%	19.8%	14.8%	13.6%
Marketing Consultants	15.7%	17.6%	11.1%	18.2%
Engineering Consultants	19.7%	14.3%	3.7%	13.6%
Patent Agents	15.2%	17.6%	7.4%	13.6%
Public Libraries	14.0%	18.7%	7.4%	9.1%
University Resources	17.4%	9.9%	3.7%	13.6%
Small Business Development Center (SBDC)	13.5%	12.1%	11.1%	9.1%
Inventors Clubs or Associations	12.9%	6.6%	11.1%	13.6%

Notes: Micropolitan and rural counties each include a small fraction of the inventors in this survey so percentages reflect relatively small numbers when compared to the Atlanta metro and Non-Atlanta metro counties. This table reflects data for only those inventors who chose to respond to this question which included 155 of the 178 participating metro Atlanta inventors, all of the 77 non-Atlanta metro inventors, 23 of the 27 micropolitan inventors and 16 of the 22 rural inventors.

The least utilized resources by the participating inventors included federal laboratories, design colleges, idea brokers, and non-specified federal and state agencies.

Least Utilized Resources for Inventors

Source of Assistance	Utilization
1 Federal Laboratory	1.5%
2 Design College	1.8%
3 Idea Brokers	2.7%
4 Other Federal Agencies	2.7%
5 Other State Agencies	3.0%
6 Private (Non-University) Laboratory	3.3%
7 Local Chamber of Commerce / Business Association	3.9%
8 Technical College Resources	4.2%
9 Trade Associations	4.5%
10 Banks	5.4%
11 U.S. Small Business Administration	6.6%
12 Business Angels	7.6%
13 Design Consultants	9.4%

Inventors were asked to rate the value of the assistance they received from the various resources, based on a scale of 1 to 5 where 1 meant “not at all valuable” and 5 meant “very valuable.” The following table includes the average value ratings based on the responses of only those inventors who utilized the resource. Some of the average ratings, therefore, are only based on a handful of inventor-reported experiences.

Receiving top billing (4.75) was design colleges, utilized and rated by four inventors. Engineering consultants received a high average mark of 4.0 based on the opinions of 47 inventors. Patent attorneys, by far the most utilized source of assistance for the independent inventors, also received an average high mark of 4.0 by 184 inventors. Receiving below-average marks (2.5 and below) were idea brokers, the U.S. Small Business Administration, and local chambers of commerce or business associations.

Inventors' Perceived Value of Assistance Provided

Source of Assistance	Average Value Rating	Number of Inventors
Design Colleges	4.75	4
Engineering Consultants	4.02	47
Patent Attorneys	4.01	184
U.S. Patent and Trademark Office	3.85	93
Technical Colleges	3.80	10
Federal Laboratory	3.75	4
Internet Sites	3.68	63
University Resources	3.66	38
Public Libraries	3.61	36
Business Angels	3.59	22
Design Consultants	3.46	28
Patent Agents	3.28	40
Other State Agencies	3.25	8
Trade Associations	3.14	14
Inventors Clubs and Associations	3.00	31
Other Federal Agencies	3.00	5
Banks	2.89	18
Private (Non-University) Laboratories	2.89	9
Marketing Consultants	2.66	41
Small Business Development Centers (SBDC)	2.58	36
Local Chamber of Commerce / Business Association	2.50	12
U.S. Small Business Administration	2.15	20
Idea Brokers	2.00	8
Other*	4.41	27

*Note: *Other, when in reference to sources of assistance, generally refers to a particular resource the inventor used. Family, Friends, and books/literature were also frequent responses.*

Inventors were also asked to rate the ease with which they accessed the various resources, based on a scale of 1 to 5 where 1 meant "very difficult" and 5 meant "very easy."

Design colleges again received top billing in terms of average rating of ease, based on the opinions of four inventors. They were followed by the Internet, as rated by 63 inventors who utilized various sites. Public libraries rounded out the top three based on the opinions of 36 inventors.

Resources that were rated as most difficult to access included idea brokers, private (non-university) laboratories, and the U.S. Small Business Administration. Two of these resources – idea brokers and the U.S. Small Business Administration – also were among

the bottom three for average value ratings, signaling a probable connection between the inventors' perception of their value and the relative ease of their experience in accessing the resource.

Inventors' Ratings for Ease of Accessing Resources

Source of Assistance	Average Rating of Ease	Number of Inventors
Design Colleges	4.25	4
Internet Sites	4.16	63
Public Libraries	3.94	36
Patent Attorneys	3.89	184
U.S. Patent and Trademark Office	3.74	93
Engineering Consultants	3.66	47
Local Chamber of Commerce / Business Association	3.55	12
Federal Laboratory	3.50	4
Patent Agents	3.44	40
Inventors Clubs and Associations	3.42	31
University Resources	3.41	38
Other State Agencies	3.33	8
Design Consultants	3.32	28
Banks	3.29	18
Trade Associations	3.20	14
Small Business Development Centers (SBDC)	3.12	36
Other Federal Agencies	3.00	5
Marketing Consultants	2.97	41
Business Angels	2.95	22
Technical Colleges	2.90	10
U.S. Small Business Administration	2.81	20
Private (Non-University) Laboratories	2.63	9
Idea Brokers	1.67	8
Other	4.38	27

Specific Types of Assistance

Inventors were also asked to rate very specific types of assistance they received. Ratings were generally low, with the average rating for all assistance types being 3.1. Inventors provided top marks for assistance received relating to various types of intellectual property assistance or advice – patent application, patent or trademark search, legal consultation, and trademark registration. Types of third-party evaluation assistance followed suit, but none received average ratings above the 3.5 mark.

Types of business assistance or advice receiving the lowest average marks consisted of human resources, accounting, information technology, and management and technical assistance. These may signal specific opportunities to explore for providing future assistance, especially given that more than three-quarters of the independent inventors who had reported commercial success cited independent production and sales of their product as their vehicle. Lack of satisfaction with the assistance

available may also have contributed to the relatively lower preferences reported by inventors for business development vehicles as opposed to their preferences for the non-business development vehicles.

Inventors' Average Value Ratings for Specific Types of Assistance

Type of Assistance	Average Value Rating	Number of Inventors
Patent Application	4.26	233
Patent or Trademark Search	4.18	226
Legal Consultation	4.00	205
Trademark Registration	3.44	167
Commercial Evaluation	3.42	186
Technical Evaluation	3.40	193
Intellectual Property Evaluation	3.27	178
Manufacturing	3.22	168
Design Assistance	3.19	187
Marketing and Sales	3.19	171
Product or Process Testing	3.18	172
Prototyping	3.15	183
Licensing	3.15	176
Business / Marketing Literature Review	3.10	172
Scientific / Technical Literature Review	3.07	179
Research	3.05	171
Planning / Roadmapping	2.92	156
Advice to Obtain Financing	2.71	174
Information Technology	2.52	152
Management and Technical Assistance	2.48	152
Accounting	2.21	146
Human Resources	2.09	145
Technical / Scientific Assistance or Advice		
Financing Assistance or Advice		
Business Assistance or Advice		
Literature Review		
Third Party Evaluation		
Intellectual Property Assistance or Advice		

The inventors were asked to recount whether any of their inventions underwent a technical evaluation. Nearly one-third (36.2 percent) indicated they had at least one invention go through such an evaluation. When asked whether they received a technical evaluation on their most successful invention, the vast majority (80.6 percent) of the 106 inventors said “yes.”

The inventors who had received technical evaluations were asked to rate the value of the technical evaluation they received. Those who provided ratings gave fairly high marks for the technical expertise of their evaluator and the thoroughness of the evaluation. Lower marks were provided for the ability of the evaluation to suggest improvements to their invention. Overall, the inventors provided a 3.6 rating regarding the “value for the money” paid for their evaluation.

Inventors' Average Value Ratings of Technical Evaluation Factors

Factor	Average Value Rating	Number of Inventors
Technical expertise of evaluator	3.87	95
Thoroughness	3.83	90
Ability to identify technical flaws	3.62	87
Ability to suggest improvements	3.39	90
Value for the money	3.61	83

The inventors were also asked whether any of their inventions underwent a market evaluation. More than one-fourth (29.6 percent) indicated they had at least one invention go through such an evaluation. When asked whether they received a market evaluation on their most successful invention, the vast majority (86.7 percent) of the 98 inventors responding to this question replied “yes.”

The inventors who had received these evaluations were asked to rate the value of the technical evaluation they received. Those who provided ratings gave fairly high marks for the market or product knowledge of their evaluator and the ability of the evaluation to provide useful feedback. However, they provided lowest marks for the “value for the money” paid for the evaluation.

Inventors' Average Value Ratings of Market Evaluation Factors

Factor	Average Value Rating	Number of Inventors
Market or product knowledge of evaluator	3.76	84
Thoroughness	3.57	84
Ability to determine probability of successful commercialization	3.45	84
Ability to provide useful feedback	3.63	84
Value for the money	3.26	82

THE NEED FOR FUTURE ASSISTANCE

The majority (70.2 percent) of the independent inventors indicated they had inventions that required further design or other assistance to make them viable products. In addition to describing their past experiences, inventors were asked to elaborate on the type of assistance they will seek in the future. When asked to describe it specifically, many inventors indicated they had multiple needs.

The inventors were asked to specifically describe the top three needs by Georgia inventors generally. While money was not cited by participants as a leading motivator for creating their invention, it was mentioned most frequently as a top need by the inventor community. Needs relating to marketing and manufacturing assistance rounded out the top three. Regarding help with manufacturing, in many cases, the inventors were seeking assistance in finding a manufacturing partner for outsourcing rather than engaging in direct manufacturing.

Top Needs by Georgia's Inventors

		Number of Responses	Percent of Responses	Percent of Inventors
1	Money	145	24.0%	31.3%
2	Marketing	82	13.6%	17.7%
3	Manufacturing	46	7.6%	9.9%
4	Network/Support	42	7.0%	9.1%
5	Technical Resources	37	6.1%	8.0%
6	Design	33	5.5%	7.1%
7	Evaluation	28	4.6%	6.0%
7	Patent Assistance	28	4.6%	6.0%
8	Avoid Scams	25	4.1%	5.4%
9	Licensing	22	3.6%	4.7%
10	Industry/Business Partner	19	3.2%	4.1%
11	Business Development	18	3.0%	3.9%
12	Mentor/Coach/Guide	17	2.8%	3.7%
13	Legal	14	2.3%	3.0%
14	Prototyping	11	1.8%	2.4%
15	Create/Find Tax Incentives	9	1.5%	1.9%
16	Literature	8	1.3%	1.7%
	Other	19	3.2%	4.1%
	Total Responses	603	100.0%	

Inventors in rural areas identified needs relating to technical resources as more relevant than inventors in other locales, with such needs tying with money as the most frequently mentioned need by these inventors. Needs relating to design, partnering with industry/business, and creating/finding tax incentives received no mention among inventors in both micropolitan and rural counties.

Top Needs by Community Type

	Atlanta Metropolitan Area	Non-Atlanta Metropolitan Counties	Micropolitan Counties	Rural Counties
1 Money	20.7%	22.4%	22.9%	26.1%
2 Marketing	11.8%	9.2%	5.7%	8.7%
3 Manufacturing	5.9%	7.9%	2.9%	13.0%
4 Network/Support	0.4%	0.0%	2.9%	0.0%
5 Technical Resources	11.8%	9.2%	17.1%	26.1%
6 Design	2.5%	2.6%	0.0%	0.0%
7 Evaluation	5.1%	5.3%	8.6%	4.3%
8 Patent Assistance	2.5%	6.6%	2.9%	0.0%
9 Avoid Scams	2.1%	2.6%	5.7%	0.0%
10 Licensing	5.1%	6.6%	0.0%	4.3%
11 Industry/Business Partner	3.4%	7.9%	0.0%	0.0%
12 Business Development	8.0%	3.9%	5.7%	0.0%
13 Mentor/Coach/Guide	2.1%	1.3%	2.9%	0.0%
14 Legal	2.5%	0.0%	2.9%	0.0%
15 Prototyping	6.8%	5.3%	2.9%	8.7%
16 Create/Find Tax Incentives	0.4%	0.0%	0.0%	0.0%
17 Literature	4.2%	3.9%	8.6%	4.3%
Other	1.7%	2.6%	2.9%	0.0%

Notes: Micropolitan and rural counties each include a small fraction of the inventors in this survey so percentages reflect relatively small numbers when compared to the Atlanta metro and Non-Atlanta metro counties. This table reflects data for only those inventors who chose to respond to this question which included 117 of the 178 participating metro Atlanta inventors, 65 of the 91 non-Atlanta metro inventors, 19 of the 27 micropolitan inventors and 20 of the 22 rural inventors.

In addition to top needs by inventors generally, inventors were asked to identify the unmet needs they are experiencing personally. Money was most frequently mentioned as an unmet need by the inventors, accounting for more than one-third (35.2 percent) of all listed needs. More than three quarters (78.8 percent) of inventors identified money as an unmet need. The need for technical resources, which accounted for approximately one-tenth of all responses, was the next most frequently mentioned response by the inventors.

Unmet Needs by Inventors in Survey

	Number of Responses	Percent of Responses	Percent of Inventors
1 Money	160	35.2%	78.8%
2 Technical Resources	47	10.3%	23.2%
3 Marketing	39	8.6%	19.2%
4 Manufacturing	24	5.3%	11.8%
4 Business Development	24	5.3%	11.8%
5 Prototyping	23	5.1%	11.3%
6 Evaluation	21	4.6%	10.3%
7 Licensing	20	4.4%	9.9%
8 Literature	17	3.7%	8.4%
9 Industry/Business Partners	14	3.1%	6.9%

Unmet Needs by Inventors in Survey (cont'd)

		Number of Responses	Percent of Responses	Percent of Inventors
10	Patent Assistance	12	2.6%	5.9%
11	Design	9	2.0%	4.4%
11	Avoid Scams	9	2.0%	4.4%
12	Incubator Resources	8	1.8%	3.9%
13	Mentor/Coach/Guide	7	1.5%	3.4%
13	Legal	7	1.5%	3.4%
14	List of Resources	4	0.9%	2.0%
15	Network/Support	2	0.4%	1.0%
16	Create/Find Tax Incentives	1	0.2%	0.5%
	Other	7	1.5%	3.4%
	Total Responses	455	100.00%	

A review of unmet needs by community type revealed some differences. Inventors in metro Atlanta counties emphasized the need for money as the most unmet need but also placed greater emphasis on the need for marketing and a mentor/coach/guide as the second and third most unmet needs than did inventors elsewhere. Non-Atlanta metro inventors largely mirrored overall observations, as money and marketing were the greatest unmet needs, and they identified technical resources and marketing as the top two needs. Micropolitan inventors agreed with money as the highest unmet need, but identified technical resources as the second greatest unmet need, and help with literature and evaluation as the next most unmet needs. In rural counties, inventors identified money and technical resources both as the most unmet needs, with help with manufacturing as the second most unmet need.

Unmet Needs by Geographic Area

	Atlanta Metropolitan Area	Non-Atlanta Metropolitan Counties	Micropolitan Counties	Rural Counties
1 Money	49.5%	36.2%	57.1%	50.0%
2 Marketing	28.3%	14.9%	14.3%	16.7%
3 Mentor/Coach/Guide	5.1%	2.1%	7.1%	0.0%
4 Literature	10.1%	6.4%	21.4%	8.3%
5 Network/Support	1.0%	0.0%	7.1%	0.0%
6 Manufacturing	14.1%	12.8%	7.1%	25.0%
7 Prototyping	16.2%	8.5%	7.1%	16.7%
8 Design	6.1%	4.3%	0.0%	0.0%
9 Evaluation	12.1%	8.5%	21.4%	8.3%
10 Patent Assistance	6.1%	10.6%	7.1%	0.0%
11 Licensing	12.1%	10.6%	0.0%	8.3%
12 Legal	6.1%	0.0%	7.1%	0.0%
13 Technical Resources	28.3%	14.9%	42.9%	50.0%
14 Business Development	19.2%	6.4%	14.3%	0.0%
15 Industry/Business Partners	8.1%	12.8%	0.0%	0.0%
16 Avoid Scams	5.1%	4.3%	14.3%	0.0%
17 Create/Find Tax Incentives	1.0%	0.0%	0.0%	0.0%
18 List of Resources	2.0%	2.1%	7.1%	0.0%

When asked to identify assistance-related resources they would consider for meeting their needs, inventors provided varying responses, with no one answer accounting for more than 10 percent of those given. Marketing consultants accounted for the largest share (9.6 percent) of responses, with more than half (54.5 percent) of the inventors identifying them as a resource to consider. Marketing was also identified as both a top need and leading unmet need by inventors. Such consultants received relatively low ratings, in comparison to other resources, by the inventors when asked to assess the value of past assistance received and the relative ease with which they were able to access the assistance (see the “Resources Accessed By Inventors” section) signaling an area of assistance needing significant improvement. Engineering consultants and university resources rounded out the top three resources that inventors would consider using in the future, which coincides with the identification of technical resources as one of the top unmet needs. While money was identified as the number-one unmet need, monetary resources were not part of the top three, possibly signaling a realization among inventors that further work may need to be done on their inventions to make them profitable or ready for outside financial investment.⁵

Resources Inventors Would Consider in the Future for Unmet Needs

		Number of Responses	Percent of Responses	Percent of Inventors
1	Marketing Consultants	121	9.6%	54.5%
2	Engineering Consultants	112	8.9%	50.5%
3	University Resources	89	7.1%	40.1%
4	Design Consultants	82	6.5%	36.9%
5	Business Angels	77	6.1%	34.7%
6	Patent Attorneys	74	5.9%	33.3%
7	Small Business Development Center	63	5.0%	28.4%
8	Technical College Resources	60	4.8%	27.0%
9	U.S. Patent and Trademark Office	57	4.5%	25.7%
10	Banks	53	4.2%	23.9%
11	Trade Associations	47	3.7%	21.2%
12	U.S. Small Business Administration	47	3.7%	21.2%
13	Private (Non-University) Laboratory	42	3.3%	18.9%
14	Design College	40	3.2%	18.0%
15	Inventors' Clubs or Associations	38	3.0%	17.1%
16	Patent Agents	34	2.7%	15.3%
17	Internet Sites	33	2.6%	14.9%
18	Idea Brokers	31	2.5%	14.0%

⁵ It should be noted that the responses provided by inventors to this question likely relate to their unmet needs at the time of the survey. For example, marketing was identified as a leading unmet need. On the other hand, probably due to those surveyed being patent holders, patent assistance was not among the leading unmet needs identified and, likewise, patent attorneys and patent agents were not among the leading resources to consider to address unmet needs.

Resources Inventors Would Consider in the Future for Unmet Needs (cont'd)

		Number of Responses	Percent of Responses	Percent of Inventors
19	Local Chamber of Commerce/Business Association	30	2.4%	13.5%
20	Federal Laboratory	27	2.1%	12.2%
21	Other State Agencies	27	2.1%	12.2%
22	Other Federal Agencies	25	2.0%	11.3%
23	Public Libraries	15	1.2%	6.8%
	Other	35	2.8%	15.8%
	Total Responses	1,259	100.0%	

However, it is interesting to compare past experiences to their indicated plans for future use. When looking at the percentage of inventors who used a resource in the past and would seek assistance from that resource again, one would find business angels at the top of the list. Engineering and marketing consultants rounded out the top three, coinciding with top unmet needs. Concerning marketing consultants, it is likely that inventors would be willing to try them as a resource again despite their relatively low rankings for past services because (1) the sheer need for their services may outweigh previous negative past experiences for some and (2) there is a wide range of choices in the marketplace for marketing consulting services.

Past and Future Assistance Patterns by Inventors

	Number assisted in the PAST	Number who would use the resource in the FUTURE	Percent who used resource in the past and would seek assistance again
Business Angels	25	16	64.0%
Engineering Consultants	52	29	56.9%
Marketing Consultants	53	28	52.8%
Technical College Resources	14	7	50.0%
Design Consultants	31	15	48.4%
University Resources	46	20	43.5%
Private (Non-University Laboratory)	11	4	36.4%
Design College	6	2	33.3%
Other Federal Agencies	9	3	33.3%
SBDC	41	13	31.7%

More than half (61.2 percent) of the survey participants said they were interested in training programs or workshops that would enhance their skills as inventors. They were asked to rate the educational topics of interest on a scale of 1 to 5 where 1 means "not at all interested" and 5 means "very interested." The top two educational topics of interest appear to be licensing and marketing. Manufacturing and financing tied for the third most highly rated topic on average, while building a small business appeared to be the least desired topic. This later rating coincides with the finding that independent inventors appear to be more interested in licensing or selling the rights to

their product rather than directly wrapping a company around it, despite the past proclivity of those who have achieved commercial success toward independent production and sales. (See “Invention Bandwidth in Georgia” section).

Inventor Interest in Educational Topics

Topics	Average Ranking	Number of Inventors
1 Licensing	4.51	166
2 Marketing	4.50	171
3 Manufacturing	4.32	165
4 Financing	4.32	161
5 Building prototypes	4.09	160
6 Protecting intellectual property	4.06	142
7 Building a small business	3.94	142
Other	3.97	37

Responses provided by inventors in the Atlanta Metropolitan area mirror the overall ranking order for topics.

Inventor Interest in Educational Topics in Atlanta Metropolitan Area

Topics	Average Ranking
1 Marketing	4.46
2 Licensing	4.42
3 Manufacturing	4.20
4 Financing	4.14
5 Building prototypes	3.99
6 Protecting intellectual property	3.89
7 Building a small business	3.77
Other	4.05

Note: This table reflects data for only those inventors who chose to respond to this question which included 105 of the 178 participating metro Atlanta inventors.

A review of feedback for inventors in the non-Atlanta metropolitan areas shows that the top four topics of interest remain the same as for those in the Atlanta area, although the order shifts some. Building a small business received a higher ranking in the non-Atlanta metro areas as well.

Inventor Interest in Educational Topics in Non-Atlanta Metro Areas

Topics	Average Ranking
1 Marketing	4.60
2 Financing	4.53
3 Licensing	4.52
4 Manufacturing	4.42
5 Building a small business	4.24
6 Building prototypes	4.16
7 Protecting intellectual property	4.15
Other	4.08

Note: This table reflects data for only those inventors who chose to respond to this question which included 54 of the 91 non-Atlanta metro inventors.

Inventors in urban and micropolitan areas expressed significant interest in marketing and licensing, as did their metropolitan counterparts, but gave higher rankings to protecting intellectual property rights and building prototypes.

Inventor Interest in Educational Topics in Micropolitan Areas		
	Topics	Average Ranking
1	Marketing	4.71
2	Licensing	4.64
3	Protecting intellectual property	4.50
4	Building prototypes	4.42
5	Manufacturing	4.38
6	Financing	4.31
7	Building a small business	3.73
8	Other	5.00
Notes: Micropolitan counties included a small fraction of the inventors in this survey so percentages reflect relatively small numbers when compared to the Atlanta metro and Non-Atlanta metro counties. This table reflects data for only those inventors who chose to respond to this question which included 15 of the 27 micropolitan inventors.		

Licensing appears to be common among all four geography types as it surfaced prominently among the rural inventors as well. The latter group gave top billing to the topic of financing, which was of less importance to inventors in other areas. Building prototypes received higher rankings among rural inventors.

Inventor Interest in Educational Topics in Rural Areas		
	Topics	Average Ranking
1	Financing	4.75
2	Licensing	4.55
3	Building prototypes	4.45
4	Manufacturing	4.42
5	Marketing	4.42
6	Protecting intellectual property	4.25
7	Building a small business	3.91
	Other	2.50
Notes: Rural counties each include a small fraction of the inventors in this survey so percentages reflect relatively small numbers when compared to the Atlanta metro and Non-Atlanta metro counties. This table reflects data for only those inventors who chose to respond to this question which included 14 of the 22 rural inventors.		

The surveyed inventors were also asked to rank the delivery methods for educational opportunities in order of preference, with 1 being the method they most preferred and 7 being the least. In-person courses and workshops received the highest average ranking and appear to be vastly more preferred than other training delivery methods. Training methods from 2 to 6 had average rankings so close that they might be considered nearly the same regarding preference by inventors, and certainly secondary to the in-person method. A correlation can be observed: the less direct and personal contact with the trainer associated with the method, the lower the preference for the training expressed by the inventor. Put another way, inventors appear to desire face-to-face contact in their training. The recorded audio-only method received the lowest average ranking in terms of preference.

Preferred Training Delivery Methods by Inventors

	Delivery Methods	Average Ranking
1	In-person courses or workshops	1.98
2	Internet-based courses or workshops	3.22
3	Pre-recorded courses or workshops (DVD or video tape)	3.32
4	Networking events	3.33
5	Online "self-help" materials	3.55
6	Hardcopy handbooks or workbooks	3.59
7	Pre-recorded audio-only courses or workshops	4.76

In-person courses or workshops remained the top preferred choice for training delivery regardless of where in Georgia the inventor lived. Pre-recorded audio-only courses or workshops also was revealed as the least preferred choice regardless of community type. However, there were some differences beyond inventors' first and last choices. For example, networking received higher rankings among inventors in the Atlanta metropolitan area.

Preferred Training Delivery Methods by Inventors in Atlanta Area

	Delivery Methods	Average Ranking
1	In-person courses or workshops	1.91
2	Networking events	3.21
3	Internet-based courses or workshops	3.23
4	Pre-recorded courses or workshops (DVD or video tape)	3.46
5	Online "self-help" materials	3.60
6	Hardcopy handbooks or workbooks	3.76
7	Pre-recorded audio-only courses or workshops	4.80

Note: This table reflects data for only those inventors who chose to respond to this question which included 102 of the 178 participating metro Atlanta inventors.

Pre-recorded courses or workshops received higher rankings among inventors in non-Atlanta metro areas than elsewhere around the state.

Preferred Training Delivery Methods by Inventors in Non-Atlanta Metro Areas

	Delivery Methods	Average Ranking
1	In-person courses or workshops	1.87
2	Pre-recorded courses or workshops (DVD or video tape)	3.03
3	Internet-based courses or workshops	3.17
4	Online "self-help" materials	3.38
5	Networking events	3.40
6	Hardcopy handbooks or workbooks	3.61
7	Pre-recorded audio-only courses or workshops	4.23

Note: This table reflects data for only those inventors who chose to respond to this question which included 49 of the 91 non-Atlanta metro inventors.

Inventors in micropolitan areas gave higher ranking to printed handbooks or workbooks than participants elsewhere.

**Preferred Training Delivery Methods by
Inventors in Micropolitan Areas**

Delivery Methods		Average Ranking
1	In-person courses or workshops	2.17
2	Hardcopy handbooks or workbooks	3.00
3	Internet-based courses or workshops	3.09
4	Pre-recorded courses or workshops (DVD or video tape)	3.20
5	Online "self-help" materials	3.60
6	Networking events	4.10
7	Pre-recorded audio-only courses or workshops	6.00

Notes: Micropolitan counties included a small fraction of the inventors in this survey so percentages reflect relatively small numbers when compared to the Atlanta metro and Non-Atlanta metro counties. This table reflects data for only those inventors who chose to respond to this question which included 14 of the 27 micropolitan inventors.

Inventors in rural counties concurred with those in its micropolitan counterparts about the value of hardcopy handbooks or workbooks, but gave a greater nod to the value of having networking events than did those in the micropolitan and non-Atlanta metropolitan areas.

**Preferred Training Delivery Methods by
Inventors in Rural Areas**

Delivery Methods		Average Ranking
1	In-person courses or workshops	2.75
2	Hardcopy handbooks or workbooks	2.91
3	Networking events	3.30
4	Internet-based courses or workshops	3.50
5	Pre-recorded courses or workshops (DVD or video tape)	3.67
6	Online "self-help" materials	3.78
7	Pre-recorded audio-only courses or workshops	5.13

Notes: Rural counties each include a small fraction of the inventors in this survey so percentages reflect relatively small numbers when compared to the Atlanta metro and Non-Atlanta metro counties. This table reflects data for only those inventors who chose to respond to this question which included 14 of the 22 rural inventors.

A CLOSER LOOK AT INDUSTRY

Inventors were asked to indicate the industry segment most relevant to their invention. The vast majority of respondents (97.6 percent) noted at least one associated industry. As indicated in the “Invention Bandwidth in Georgia” section of this report, an analysis of the inventor responses reveals that many (47.1 percent) produce consumer products. However, notable shares are involved in creating non-consumer products and more technology-based applications such as in the medical devices and equipment (19.3 percent), automotive (17.3 percent), and energy and environmental (16.9 percent) areas.

Industry and Age

More than half (61.9 percent) of the inventors, regardless of industry, were between the ages of 45 and 64, as described in the “Profiling Georgia's Independent Inventors” section of this report. The share of inventors outside this age group drops significantly, with the 35-to-44 age group accounting for 14.2 percent and the 65-to-74 age group accounting for 13.3 percent. Inventors in the industry categories of automotive, consumer products, energy and environmental, medical devices and equipment, other health care generally followed this trend. The only notable difference is within the aerospace category, which appeared to have a greater share of inventors of at least 65 years old than other age groups.

Age of Inventor by Top 5 Non-Consumer Product Industry Applications

	Age							Prefer not to answer
	20-24	25-34	35-44	45-54	55-64	65-74	75 or more	
Automotive								
Energy, Environmental								—
Logistics, Transportation		—						
Medical Devices and Equipment								
Other Health care		—						

Industry and Occupation

Inventors reporting to hold management and professional, self employed, and retired occupations were present across just about all industries. However, there tended be some correlation between management and professional individuals and the three technology industries of greatest interest - medical devices, automotive, and energy and environmental. While the largest number of self employed inventors were involved in consumer products, a notable number of such inventors reported involvement in the automotive, medical devices, energy and environmental, and logistics and transportation industrial categories as well.

Inventors by Occupation Per Industry Areas

	Student	Management and Professional	Service (childcare, cosmetology, etc.)	Sales and Office	Farming, Forestry, Fishing	Construction and Maintenance	Production, Transportation, and Material Moving	Unemployed	Self-Employed	Retired	Other	Prefer Not to Answer
Aerospace	--	3	--	--	--	--	--	1	6	10	--	--
Agriscience	--	4	--	--	--	--	--	1	6	1	5	--
Automotive	--	12	--	1	--	--	5	2	15	13	7	1
Business and Financial Services	--	1	--	--	--	--	--	1	1	2	--	--
Chemical	--	5	--	--	--	--	--	--	5	4	2	--
Consumer Products	3	40	4	5	--	9	5	2	37	27	18	--
Energy, Environmental	--	17	1	--	--	1	2	3	11	7	9	--
Homeland Security	--	8	--	--	--	--	1	--	4	2	1	--
Pharmaceuticals and Biotech	--	3	--	--	--	1	--	--	4	1	2	--
Logistics, Transportation	--	9	--	--	--	2	4	1	11	5	2	--
Medical Devices and Equipment	--	22	--	--	--	--	1	--	14	15	11	--
Other Health care	--	10	2	--	--	--	1	--	7	5	8	--
Multimedia	--	4	--	--	--	--	--	1	1	--	2	--
Nanotechnology	--	--	--	--	--	--	--	--	--	--	--	--
Software	--	7	--	--	--	1	--	--	2	3	1	--
Telecommunications	--	7	--	1	--	--	2	--	5	2	2	--
Other	--	17	--	3	1	8	5	1	32	14	20	1

Industry and Education

Generally, the more technology-intensive an industry is, the greater the tendency for inventors creating related products to have higher levels of education. For example, the percentage of inventors with advanced degrees have products related to the pharmaceutical and biotech, logistics and transportation, medical devices, chemical, homeland security, aerospace, and the software industries.

Agriscience inventors reported a higher prevalence of no college degree and lower prevalence of having an advanced degree than did inventors in any other category. Other non-consumer product industries with a fairly large percentage of inventors without college degrees included automotive, logistics and transportation, homeland security, and telecommunications. Business and financial services reported a high

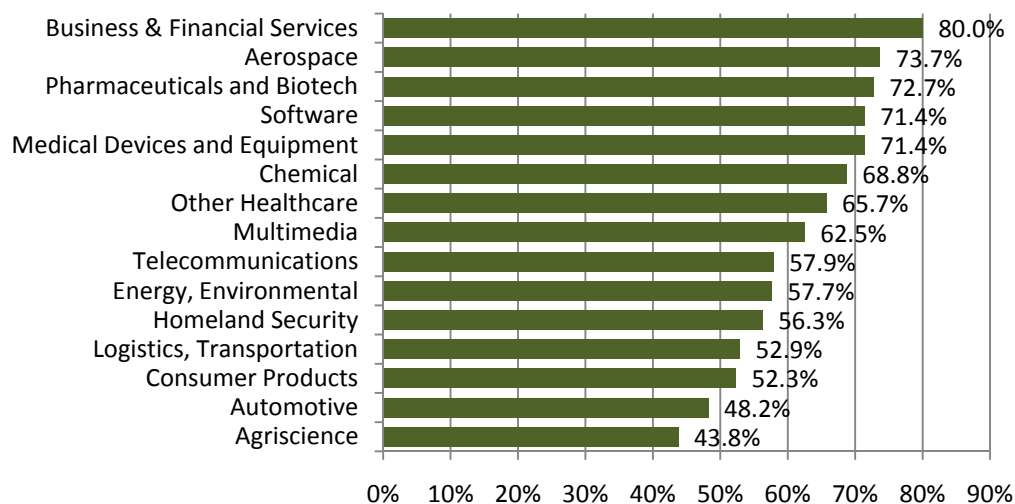
number of advanced degrees, but it is not all that significant due to the small number of inventors reporting products in this industry.

Percentage of Inventors by Degree in Industry Areas

	No College Degree	2 Year Degree	4 Year Degree	Advanced Degree	No Answer
Aerospace	20.0%	5.0%	35.0%	35.0%	5.0%
Agriscience	41.2%	11.8%	29.4%	11.8%	5.9%
Automotive	39.3%	12.5%	23.2%	25.0%	--
Business and Financial Services	20.0%	--	20.0%	60.0%	--
Chemical	25.0%	6.3%	31.3%	37.5%	--
Consumer Products	38.5%	7.7%	27.6%	23.1%	3.2%
Energy, Environmental	30.8%	7.7%	34.6%	23.1%	3.8%
Homeland Security	37.5%	6.3%	18.8%	37.5%	--
Pharmaceuticals and Biotech	18.2%	9.1%	18.2%	54.5%	--
Logistics, Transportation	38.2%	8.8%	23.5%	29.4%	--
Medical Devices and Equipment	17.2%	10.9%	25.0%	45.3%	1.6%
Other Health care	30.6%	2.8%	36.1%	27.8%	2.8%
Multimedia	25.0%	12.5%	25.0%	37.5%	--
Software	21.4%	7.1%	35.7%	35.7%	--
Telecommunications	36.8%	--	31.6%	26.3%	5.3%
Other	41.5%	10.4%	21.7%	18.9%	7.5%

Participating inventors with four or more years of college education, beyond those involved business and financial services, involved in aerospace, pharmaceuticals and biotech, software, and medical devices and equipment topped the list for the percentage of the inventors with a college degree.

Inventors with 4+ Years of College Education



Industry and Income

Those creating products within the pharmaceuticals and biotech and software categories appeared to be among those with the highest household incomes, each with an average annual household income exceeding \$100,000. This coincides with the fact these are technology-intensive industries that typically require higher educational achievement among those specializing in them. While inventors in the business and financial services area also appear to have high household incomes, the small number of such inventors does not enable a determination of whether this is a significant finding.

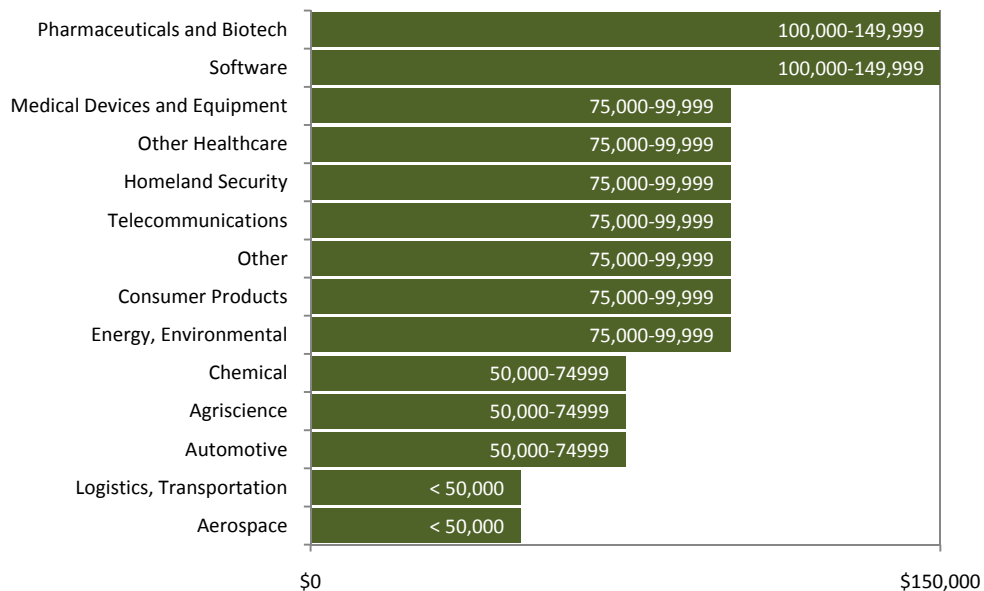
For the five most frequently mentioned non-consumer product industries, there is a definite correlation between income and invention.

**Inventor Household Income in
Top 5 Non-Consumer Product Industry Applications**

	Annual household income										
	Less than \$10,000	\$10,000 to \$14,999	\$15,000 to \$24,999	\$25,000 to \$34,999	\$35,000 to \$49,999	\$50,000 to \$74,999	\$75,000 to \$99,999	\$100,000 to \$149,999	\$150,000 to \$199,999	\$200,000 or more	Prefer not to answer
Automotive											
Energy, Environmental											
Logistics, Transportation											
Medical Devices and Equipment											
Other Health care											

Aerospace represents an anomaly as its inventors reported the lowest household incomes. One potential reason for why aerospace does not appear highly ranked for average household income may be because many (50 percent) of the aerospace inventors were retired, and likely on a fixed income. This is more than twice the percentage of retirees seen in any other category. In the agriscience, aerospace, logistics and transportation, and automotive groups, over one-third of the inventors reported an average annual household income under \$50,000.

Median Household Income Range by Industry



Industry and Gender

Several industry categories were 100 percent male in representation, including three of the industries with high average annual household incomes. The industries with the highest involvement of women inventors appeared to be other health care, medical devices and equipment, and consumer products.

Inventors by Gender Per Industry Area

	Male	Female	Prefer not to answer	Total
Aerospace	100.0%	0.0%	0.0%	20
Agriscience	100.0%	0.0%	0.0%	16
Automotive	94.6%	5.4%	0.0%	56
Business and Financial Services	100.0%	0.0%	0.0%	5
Chemical	93.3%	6.7%	0.0%	15
Consumer Products	85.4%	14.6%	0.0%	151
Energy, Environmental	92.3%	7.7%	0.0%	52
Homeland Security	100.0%	0.0%	0.0%	16
Pharmaceuticals and Biotech	100.0%	0.0%	0.0%	10
Logistics, Transportation	97.1%	2.9%	0.0%	34
Medical Devices and Equipment	84.1%	15.9%	0.0%	63
Other Health care	79.4%	20.6%	0.0%	34
Multimedia	100.0%	0.0%	0.0%	8
Software	100.0%	0.0%	0.0%	14
Telecommunications	89.5%	5.3%	5.3%	19
Other	84.5%	13.6%	1.9%	103
Total	83.1%			314

Industry and Race

Caucasians composed the majority of the inventors creating products in the pharmaceuticals and biotech industry, where 90.9 percent of the industry mentions were by Caucasian inventors. In medical devices and equipment, Caucasians accounted for 82.5 percent of the industry mentions.

The only industry where Caucasians did not compose at least 60 percent of the inventors was telecommunications, where they represented 42.1 percent and African-Americans represented 31.6 percent of the inventors, respectively. African-Americans also had a strong representation in other health care, where they accounted for 23.5 percent of inventors.

Inventors by Race Per Industry Area

	African American	Asian / Pacific Islander	Caucasian / White	Hispanic	Native American	More than one
Aerospace	2	1	15	1	--	--
Agriscience	2	--	13	--	--	1
Automotive	8	1	41	1	--	2
Business and Financial Services	1	--	4	--	--	--
Chemical	1	2	13	--	--	--
Consumer Products	25	5	115	1	1	1
Energy, Environmental	8	4	35	--	--	2
Homeland Security	2	2	10	--	--	1
Pharmaceuticals and Biotech	--	--	10	--	--	--
Logistics, Transportation	7	1	25	--	--	1
Medical Devices and Equipment	7	1	52	--	--	2
Other Health care	8	1	23	--	--	1
Multimedia	3	--	5	--	--	--
Nanotechnology	--	--	--	--	--	--
Software	2	1	11	--	--	--
Telecommunications	6	3	8	--	--	1
Other	17	3	75	3	1	3

Industry and Region

Among the 53.8 percent of inventors residing in the Atlanta area (Region 3) was a concentration of individuals specializing in aerospace (83.3 percent), telecommunications (82.4 percent), chemical (71.4 percent), and homeland security (62.5 percent). This could be attributed to the coinciding concentration of university and business resources, in addition to the relatively high percentage of Georgians who reside there.

Inventors by Region Per Industry Area

	Region											
	1	2	3	4	5	6	7	8	9	10	11	12
Aerospace	1	1	15	1	--	--	--	--	--	--	--	--
Agriscience	1	2	3	--	1	1	2	2	--	3	1	1
Automotive	1	2	29	2	6	1	3	2	--	1	4	2
Business and Financial Services	1	1	1	--	--	--	--	1	--	--	--	--
Chemical	1	--	10	--	1	--	--	--	--	1	--	1
Consumer Products	8	9	87	5	9	6	5	6	--	6	1	8
Energy, Environmental	1	1	29	1	3	2	4	3	1	4	2	1
Homeland Security	1	--	10	2	--	--	--	--	--	3	--	--
Pharmaceuticals and Biotech	1	1	5	--	2	--	--	--	1	--	--	--
Logistics, Transportation	1	2	14	2	2	--	1	2	1	1	3	3
Medical Devices and Equipment	1	8	33	4	1	2	4	4	2	--	2	2
Other Health care	--	2	21	2	1	--	3	2	--	2	1	1
Multimedia	--	1	4	--	2	--	--	--	--	--	--	1
Software	--	--	7	--	--	--	--	3	--	1	--	2
Telecommunications	--	--	14	1	--	--	--	1	--	--	--	1
Other	3	6	54	2	10	3	3	4	2	2	5	7

Invention activity related to medical devices — at least in terms of the participating inventors in this survey — seems to mostly occur in the Atlanta region (Region 3), with some activity elsewhere in the state, most notably in the Gainesville region (Region 2). Beyond the Atlanta region, automotive-related activity also is evident to some degree around the state, with the Athens region (Region 5) appearing to have the second highest level of concentration. Energy and environmental-related activities also appear concentrated in the Atlanta region.

Industry and Community Type

There were some differences in inventors' industry area of focus depending upon the type of community they hailed from. For example, inventors in rural counties reported no inventions in the fields of aerospace, telecommunications, software, multimedia, business and financial services, and other health care. Likewise, inventors in micropolitan areas reported no inventions in aerospace, telecommunications, chemical, multimedia, and business and financial services. To some extent, especially for the technology-intensive industries, this is an anticipated result given the nature of these industries and their level of presence in less urbanized areas.

A review of invention activity by those in Atlanta and non-Atlanta metro counties reveals some similarities with regards to consumer products, but also notable shifts depending upon the industry. While a higher share of metro Atlanta inventors reported products in aerospace, telecommunications, chemical, and homeland security, a greater share of inventors in non-Atlanta metro counties reported products in all the other areas, including the non-consumer product areas of energy and environmental, logistics and transportation, and other health care. A larger portion of inventors in micropolitan counties reported products in agriscience, and over half (52.9 percent) of the agriscience inventors lived in areas outside the Atlanta region.

Inventors by Community Type and Industry Area (Percent)

Category	Atlanta Metropolitan Area	Non-Atlanta Metropolitan Counties	Micropolitan Counties	Rural Counties
Consumer Products	48.9%	48.4%	40.7%	36.4%
Medical Devices and Equipment	18.5%	22.0%	25.9%	13.6%
Automotive	16.3%	22.0%	7.4%	9.1%
Energy and Environmental	16.3%	17.6%	18.5%	9.1%
Other Health care	11.8%	13.2%	7.4%	0.0%
Logistics, Transportation	7.9%	14.3%	14.8%	4.5%
Aerospace	8.4%	3.3%	0.0%	0.0%
Telecommunications	7.9%	3.3%	0.0%	0.0%
Agriscience	1.7%	9.9%	14.8%	4.5%
Chemical	5.6%	2.2%	0.0%	9.1%
Homeland Security	5.6%	4.4%	3.7%	4.5%
Software	3.9%	5.5%	3.7%	0.0%
Pharmaceuticals and Biotech	2.8%	3.3%	3.7%	4.5%
Multimedia	2.2%	4.4%	0.0%	0.0%
Business and Financial Services	0.6%	3.3%	0.0%	0.0%

Notes: Micropolitan and rural counties each include a small fraction of the inventors in this survey so percentages reflect relatively small numbers when compared to the Atlanta metro and Non-Atlanta metro counties. This table reflects data for only those inventors who chose to respond to this question which included 174 of the 178 participating metro Atlanta inventors, all of the 91 non-Atlanta metro inventors, all of the 27 micropolitan inventors and 19 of the 22 rural inventors.

Industry and Motivation

The tendency for job-related motivations was higher for non-consumer products.

Inventors by Motivation and Industry Area

	Personal Life	Job Related	Recreation	Idealism	Money	Safety	Other
Aerospace	--	6	--	--	1	--	--
Agriscience	5	6	1	5	2	--	1
Automotive	9	10	4	9	4	3	4
Business and Financial Services	--	1	--	--	1	--	1
Chemical	1	4	2	1	1	1	--
Consumer Products	32	28	25	32	5	8	8
Energy, Environmental	7	17	2	6	4	3	1
Homeland Security	4	4	1	4	1	--	1
Pharmaceuticals and Biotech	--	7	--	--	1	3	--
Logistics, Transportation	6	7	2	6	2	1	3
Medical Devices and Equipment	10	27	3	10	4	3	--
Other Health care	7	17	1	7	1	1	--
Multimedia	1	2	1	1	--	--	--
Software	2	3	1	2	--	2	--
Telecommunications	--	4	2	--	1	5	1
Other	14	29	10	14	7	6	3

Job-related reasons for inventing were markedly higher by those with products in aerospace (85.7 percent), pharmaceuticals and biotech (77.8 percent), other health care (65.4 percent), and medical devices and equipment (60 percent), than in the other industries. Inventors in automotive, consumer products, and logistics and transportation products appeared to have the most diverse reasons for engaging in the patent process.

Industry and Top Needs

A review of the top three non-consumer product industry areas — automotive, energy and environmental, and medical devices and equipment — showed that money and marketing continued to be among the top needs but other areas of assistance also radiated more highly among inventors in these areas. For example, automotive inventors rated the need for evaluation services as the third most significant need. Environmental and energy inventors identified money and marketing among their top three needs, but identified networking and support as a top-two need. Medical device and equipment inventors rated technical resources as the third most significant need. These differences might be attributable to the high level of science and technology inputs required for successfully bringing product to market in these three industries.

A CLOSER LOOK AT SUCCESS

Nearly one-third (31.4 percent) of the inventors surveyed indicated that they achieved success through one or more commercialization vehicles.

Success and Age

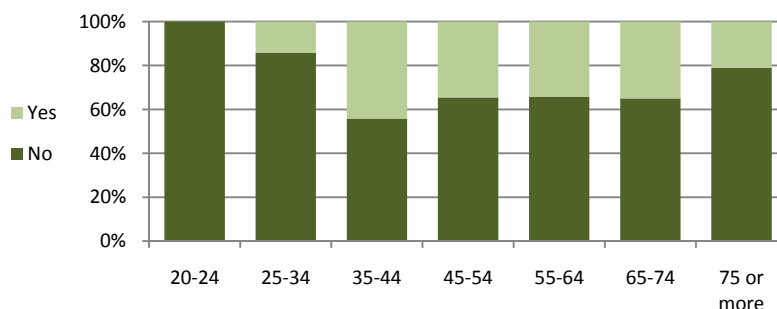
More than three-quarters (75.4 percent) of the successful inventors were between 45 and 74 years of age. Only 1 percent of inventors who achieved success did so before age 35, and only 3.9 percent did so after 75.

Inventors by Age and Success

Commercial Success - Age							
	20-24	25-34	35-44	45-54	55-64	65-74	75 or more
No	0.5%	3.1%	12.4%	28.5%	33.7%	13.5%	7.8%
Yes	0.0%	1.0%	18.6%	28.4%	33.3%	13.7%	3.9%
							1.0%

The distribution of success and failure across the age ranges studied appear very similar. Only those 75 and older show a significant difference in these rates.

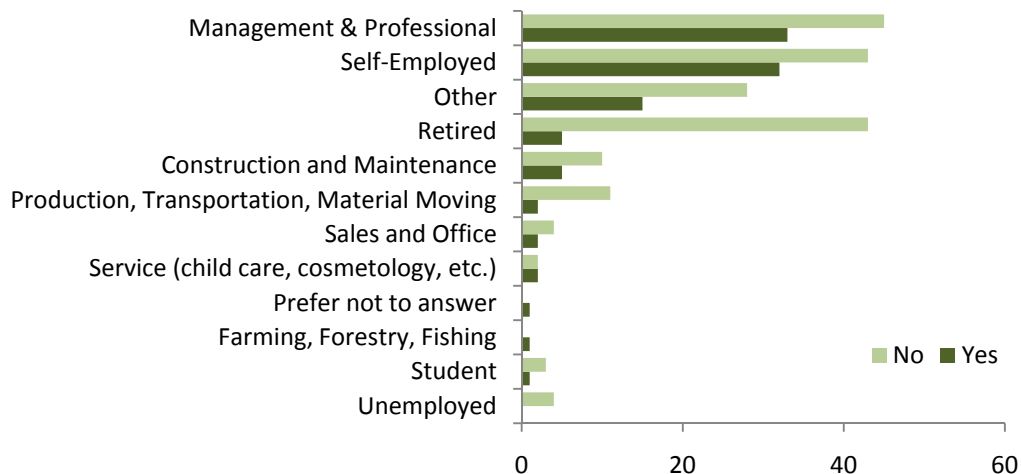
Has Achieved Commercial Success



Success and Occupation

The largest shares of successful inventors were either management and professionals (33.3 percent), or self-employed (32.3 percent). To some degree this corresponds with the level of invention activity among individuals in these occupational categories but there are likely further factors as those who are retirees had similarly high levels of activity without the success. It could be that those with a management background may have some success that is attributable to training in business practices and familiarity with business processes, and that those with a self-employment background may have additional time to devote to pursuing commercialization. It's difficult to ascertain the explanatory factors without further investigation.

Commercial Success by Occupation

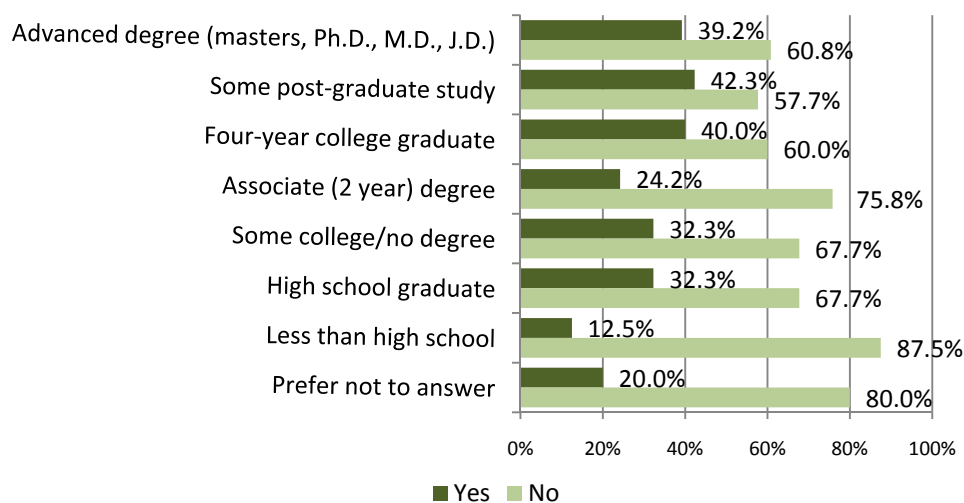


Success and Education

There seems some relationship between the degree of success experienced by an inventor and his or her education level. Overall, most (88.1 percent) successful inventors had at least some college-level training, and 67.3 percent had completed some type of college degree. This was higher than the observation for inventor participants overall. More than one-fourth (28.7 percent) had a graduate degree.

The correlation between education and success bears out when reviewing the percentage of successful inventors within each educational achievement category. Approximately 40 percent of inventors with advanced degrees reported some level of commercial success. Similar observations can be seen for those with some post-graduate study and four-year college degrees. The success rate drops notably among inventors with less education.

Success and Education



Inventors by Education and Success

Highest Level of Educational Attainment	Commercial Success?	
	Yes	No
Less than High School	12.5%	87.5%
High School Graduate	32.3%	67.7%
Some College, No Degree	32.3%	67.7%
Associate Degree	24.2%	75.8%
Four-Year College Degree	40.0%	60.0%
Some Post-Graduate Study	42.3%	57.7%
Advanced Degree	39.2%	60.8%

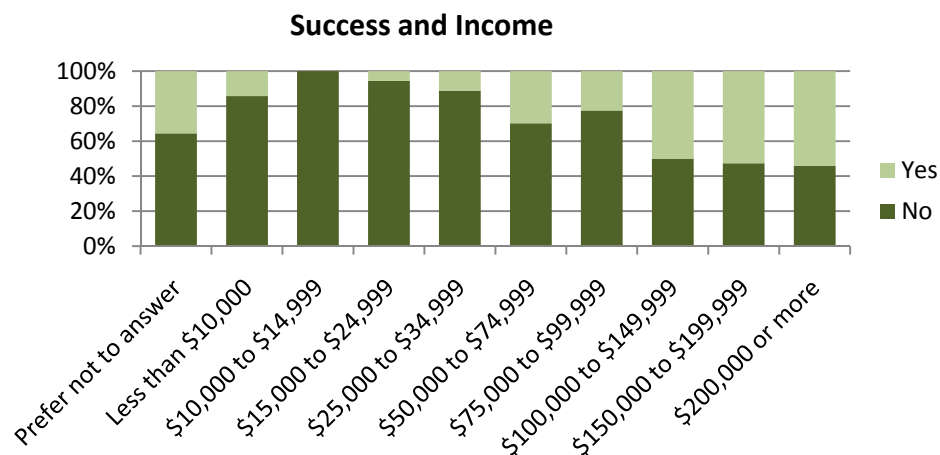
Success and Income

Most Georgia inventors with successful inventions have an average annual household income of \$75,000 or greater (58.5 percent), and 31.9 percent have an average annual household income at least \$150,000. Inventors with annual household incomes of \$200,000 or more accounted for the highest share (21.3 percent) of those who indicated commercial success, followed by inventors with incomes in the \$100,000 to \$149,999 range.

Number of Inventors by Income and Success

		Commercial Success		
		No	Yes	Total
Annual household income	Less than \$10,000	6	1	7
	\$10,000 to \$14,999	4	0	4
	\$15,000 to \$24,999	17	1	18
	\$25,000 to \$34,999	8	1	9
	\$35,000 to \$49,999	21	6	27
	\$50,000 to \$74,999	33	14	47
	\$75,000 to \$99,999	31	9	40
	\$100,000 to \$149,999	16	16	32
	\$150,000 to \$199,999	9	10	19
	\$200,000 or more	17	20	37
	Prefer not to answer	29	16	45
	Total	191	94	285
NOTE: This table includes data for the 94 successful inventors who chose to report income levels and does not refer to the entire population 104 inventors who self-reported to be successful.				

A closer review of success and income levels more reveals most independent inventors who reported incomes at \$150,000 and above also reported some form of commercial success reinforcing the link between personal wealth and success. This finding supports a general observation that inventions typically require some level of personal financial investment to go from concept to market, and cannot solely depend on outside financing.



Success and Gender

It appears that male inventors have been able to achieve commercial success more frequently than have female inventors. This could possibly be because men appear to be more active in all three avenues for commercial success (independently, through licensing, and through assigning or selling) and account for most of the invention activity reflected in this survey. It could also relate to education and income levels. It is hard to determine the contributing factors with any degree of certainty.

Number of Inventors by Gender and Success Vehicle

Achieved success through:		Gender			Total
		Male	Female	Prefer not to answer	
Independent production and sales	No	171	34	3	208
	Yes	68	11	0	79
Licensing to another entity	No	198	39	3	240
	Yes	25	3	0	28
Assigning (selling) to another entity	No	207	40	3	250
	Yes	13	2	0	15

NOTE: This table includes data for the inventors who chose to indicate their gender. Of those achieving success through independent production and sales, 79 of the 83 inventors and 28 of the 29 inventors achieving success through licensing provided their gender. All 15 of the inventors who achieved success through the outright sale of their patent provided gender information.

Success and Race

Among the racial / ethnic groups, Caucasians were most able to reach commercial success, with over 40 percent doing so. Of the African-American inventors, 16.7 percent reported to have achieved commercial success. Success may be more related to income, educational achievement, or a number of other factors that would require additional research to identify. Several other ethnic groups did not have sufficient representation to draw conclusions.

Inventors by Race and Ethnicity and Success⁶

Commercial success	Race and Ethnicity							Total
	African American	Asian / Pacific Islander	Caucasian / White	Hispanic	Native American	Prefer not to answer	More than one	
No	83.33%	75.00%	59.43%	75.00%	100.00%	81.82%	83.33%	65.65%
Yes	16.67%	25.00%	40.57%	25.00%	0.00%	18.18%	16.67%	34.35%
Total	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

Percent of Successful Inventors by Race and Ethnicity

Commercial success	Race and Ethnicity						
	African American	Asian / Pacific Islander	Caucasian / White	Hispanic	Native American	Prefer not to answer	More than one
Percent of Total Successful Inventors	7.9%	3.0%	85.1%	1.0%	0.0%	2.0%	1.0%

Success and Region

Overall, reported experiences by inventors revealed that approximately one of every three inventors experienced some level of commercial success. This varies some by region, with Regions 1, 2, 3, and 7 having roughly an average 66 percent failure rate among inventors, and Regions 10 and 12 having success rates of 66.7 percent and 46.2 percent, respectively. Regions 4, 6, 8, and 11 posted average success rates of 25 percent, 7.7 percent, 9.1 percent, and 18.2 percent, respectively.

Inventors by Region and Success

Region	Commercial Success		
	No	Yes	Total
1	6	3	9
2	11	5	16
3	101	56	157
4	9	3	12
5	10	7	17
6	12	1	13
7	10	5	15
8	10	1	11
9	2	3	5
10	3	6	9
11	9	2	11
12	7	6	13
Total	190	98	288

⁶ Note: The majority (70.4 percent) of inventors participating in the survey reported themselves to be Caucasian / White. The breakdown for non-Caucasian / White surveyed inventors is as follows: African Americans (16.6 percent), Asian / Pacific Islander (3.6 percent), multi-racial / multi-ethnic (1.8 percent), Hispanic (1.2 percent), Native American (0.3 percent), and not available (6 percent). Therefore, the percentages for non-Caucasian / White and non-African American inventors represent small numbers.

Success and Industry

A few industries appear to have surprisingly high success rates among inventors. Pharmaceuticals and biotech, chemical, and agriscience industries each yielded inventor success rates greater than 50 percent. Conversely, telecommunications had well below the overall invention success rate of approximately 31.4 percent, with only 15.8 percent achieving commercial success.

Inventors by Industry and Success			
Commercial Success			
Industry Area	No	Yes	Total
Consumer Products	86	56	142
Other	67	33	100
Energy, Environmental	30	20	50
Medical Devices and Equipment	41	20	61
Logistics, Transportation	19	14	33
Automotive	38	13	51
Chemical	4	10	14
Other Health care	23	10	33
Aerospace	9	9	18
Agriscience	8	9	17
Pharmaceuticals and Biotech	1	7	8
Homeland Security	10	6	16
Multimedia	4	3	7
Software	11	3	14
Telecommunications	16	3	19
Business & Financial Services	2	2	4

Most Successful Industry Areas		
Commercial Success		
Industry Area	No	Yes
Pharmaceuticals and Biotech	12.5%	87.5%
Chemical	28.6%	71.4%
Agriscience	47.1%	52.9%
Aerospace	50.0%	50.0%
Business & Financial Services	50.0%	50.0%
Multimedia	57.1%	42.9%
Logistics, Transportation	57.6%	42.4%
Energy, Environmental	60.0%	40.0%
Consumer Products	60.6%	39.4%
Homeland Security	62.5%	37.5%
Other	67.0%	33.0%
Medical Devices and Equipment	67.2%	32.8%
Other Health care	69.7%	30.3%
Automotive	74.5%	25.5%
Software	78.6%	21.4%
Telecommunications	84.2%	15.8%

Success and Use of Resources⁷

It is instructive to review the experiences of those who accessed a particular resource to see if they were eventually successful by their own indication. The top three success margins appeared to be associated with minimally tapped resources – trade associations, other federal agencies, and design colleges. For example, of the 14 inventors who used trade associations as a resource, more than three quarters (78.6 percent) reported to be successful with their invention(s). University resources and banks rounded out the top five.

Success by Inventors Using Resources

Source of Assistance	Inventors Using Resource	Reported Success?
Trade Associations	14	78.6%
Other Federal Agencies	9	77.8%
Design Colleges	6	66.7%
University Resources	43	58.1%
Banks	17	52.9%
Internet Sites	63	49.2%
U.S. Small Business Administration	21	47.6%
Business Angels	22	45.5%
Private (Non-University) Laboratory	11	45.5%
Engineering Consultants	50	42.0%
Design Consultants	29	41.4%
Patent Attorneys	195	40.5%
U.S. Patent and Trademark Office	95	40.0%
Local Chamber of Commerce / Business Association	13	38.5%
Public Libraries	47	38.3%
Technical Colleges	14	35.7%
Marketing Consultants	51	33.3%
Small Business Development Center (SBDC)	39	33.3%
Patent Agents	48	22.9%
Federal Laboratory	5	20.0%
Other State Agencies	10	20.0%
Inventor Clubs or Associations	32	18.8%
Idea Brokers	8	12.5%
Other	36	30.6%

When reviewing the experiences of successful inventors only, there were several interesting relationships between commercial success and the use of certain resources. Of the inventors who achieved commercial success, the largest share indicated that they utilized a patent attorney. The U.S. Patent and Trademark Office and Internet sites rounded out the top three. University resources were the fourth most accessed resource among these inventors. Idea brokers, federal laboratories, and other state agencies were among the least utilized resources.

⁷ Data cited in this section is on a scale of 1 to 5, where 1 is the lowest and 5 is the highest value.

Successful Inventors by Resources Used and Success

Source of Assistance	Successful Inventors Who Used Resource	Percent of Successful Inventors
Patent Attorneys	79	76.0%
U.S. Patent and Trademark Office	38	36.5%
Internet Sites	31	29.8%
University Resources	25	24.0%
Engineering Consultants	21	20.2%
Public Libraries	18	17.3%
Marketing Consultants	17	16.3%
Small Business Development Center (SBDC)	13	12.5%
Design Consultants	12	11.5%
Patent Agents	11	10.6%
Trade Associations	11	10.6%
Business Angels	10	9.6%
U.S. Small Business Administration	10	9.6%
Banks	9	8.7%
Other Federal Agencies	7	6.7%
Inventor Clubs or Associations	6	5.8%
Local Chamber of Commerce / Business Association	5	4.8%
Private (Non-University) Laboratory	5	4.8%
Technical Colleges	5	4.8%
Design Colleges	4	3.8%
Other State Agencies	2	1.9%
Federal Laboratory	1	1.0%
Idea Brokers	1	1.0%
Other	11	10.6%

Among successful inventors surveyed, patent attorneys, university resources, and engineering consultants were the top three most highly rated resources, on a scale of 1 to 5 where 1 meant “not at all valuable” and 5 meant “valuable.” Unsuccessful inventors also provided top ranking to patent attorneys, but rated the U.S. Patent and Trademark Office and engineering consultants higher than other resources.

Successful inventors found university resources and engineering consultants most useful (with average scores of 3.59 and 3.46, respectively), whereas non-successful inventors provided average scores of 2.61 and 3.07, respectively. Non-commercially successful inventors generally found engineering consultants slightly easier to access.

Un-successful inventors often did not recognize the value of marketing consultants (62.5 percent rated them a 1, the lowest score), where all successful inventors realized at least some value from their marketing consultant. Successful inventors rated the average value of marketing consultants as a 2.91 out of 5, and un-successful inventors rated them, on average, as a 2.02. Similarly, successful inventors tended to find marketing consultants easier to access than inventors who were not able to reach commercial success. Successful inventors also found marketing consultants generally within 30 miles (53.4 percent), whereas only 10.6 percent of the non-successful inventors found this to be the case.

Patent agents were more often utilized by un-successful inventors (over 75 percent of inventors who used patent agents were unsuccessful). However, both groups said they were a moderately valuable resource (averaging greater than 2.5). Most inventors (66.7 percent) reported to have traveled more than 30 miles to reach a patent agent.

Most respondents, regardless of success, found patent attorneys to be a helpful tool (47.1 percent ranked them as 5 out of 5). This could be attributed to the complexity of correctly writing and filing a patent. Most found them relatively easy to access as well, with 43.8 percent of respondents giving this measurement a 5 out of 5. The majority of inventors found it necessary to travel more than 30 miles to reach a patent attorney (62.7 percent). Public libraries were considered useful by most respondents, with 54.3 percent rating them a 4 or 5 in value. The vast majority also found this resource easy to access, as 71.5 percent rated ease of access as a 4 or 5 out of 5. Most respondents (75 percent) had a public library within 15 miles.

Reported Value of Resources by Successful and Unsuccessful Inventors

Resource	Value Rating by Successful Inventors	Value Rating by Unsuccessful Inventors
Patent Attorneys	3.92	3.92
University Resources	3.59	2.61
Engineering Consultants	3.46	3.07
Internet Sites	3.34	2.96
U.S. Patent and Trademark Office	3.27	3.65
Other	3.13	2.84
Marketing Consultants	2.91	2.02
Design Consultants	2.81	2.21
Trade Associations	2.76	1.70
Private (Non-University) Laboratory	2.64	3.05
Patent Agents	2.58	2.94
Business Angels	2.50	1.78
Technical College Resources	2.43	2.04
Banks	2.38	1.61
Public Libraries	2.35	1.46
Small Business Development Center (SBDC)	2.23	2.15
Design College	1.86	1.57
Inventors' Clubs / Associations	1.82	2.26
Other Federal Agencies	1.76	1.75
U.S. Small Business Administration (SBA)	1.52	1.94
Federal Laboratory	1.50	1.45
Local Chamber of Commerce / Business Association	1.29	1.85
Idea Brokers	1.15	1.39
Other State Agencies	1.14	2.13

University resources were generally well valued, with 40 percent of successful and unsuccessful inventors rating them a 5 out of 5. Interestingly, no successful inventors provided low ratings (1 or 2) to these resources, whereas 26.7 percent of unsuccessful inventors did. Inventors who used these resources had a higher tendency of success as 57.1 percent of inventors who used university resources were successful. This may be

due to a weeding-out effect universities may employ when selecting who to assist, that universities grow or tend to employ talented inventors to assist, that access to the varied knowledge bases found at typical universities gives an edge to inventors who are able to gain access, or that there are other unidentified factors involved. A higher share (42.9 percent) of unsuccessful inventors than that (30 percent) of successful inventors provided considered university resources to be very accessible. Nearly half (47.6 percent) of the successful inventors reported to be relatively close (within 15 miles) in proximity to a university.

The U.S. Patent and Trademark Office (USPTO) was generally valued, especially among unsuccessful inventors, who typically gave it a score of 5 out of 5 (50 percent). Successful inventors typically gave the USPTO a score of 3 (45.7 percent), possibly due to having gone further down the commercialization process and having engaged additional resources to compare. Both commercially successful and unsuccessful respondents found this resource easy to access, as it scored a 4 or 5 from 65.1 percent of all respondents. This could be because the USPTO provides online how-to guides, database search capabilities, and other useful online tools for inventors to better understand how to navigate the patenting process.

Reported Ease of Resources by Successful and Unsuccessful Inventors

Resource	Ease Rating by Successful Inventors	Ease Rating by Unsuccessful Inventors
Patent Attorneys	3.88	3.79
Internet Sites	3.62	3.57
U.S. Patent and Trademark Office (USPTO)	3.20	3.78
Engineering Consultants	3.19	3.00
Other	3.12	2.76
University Resources	3.11	2.76
Private (Non-University) Laboratory	3.09	3.19
Marketing Consultants	2.91	2.36
Design Consultants	2.71	2.43
Trade Associations	2.65	1.95
Patent Agents	2.39	3.27
Banks	2.23	2.15
Technical College Resources	2.07	1.92
Small Business Development Center (SBDC)	2.05	2.49
Public Libraries	2.00	1.88
Business Angels	1.90	2.00
Design College	1.85	1.70
Inventors' Clubs / Associations	1.82	2.58
Other Federal Agencies	1.76	2.05
U.S. Small Business Administration (SBA)	1.68	2.48
Federal Laboratory	1.57	1.60
Local Chamber of Commerce / Business Association	1.50	2.35
Other State Agencies	1.29	2.36
Idea Brokers	1.23	1.38

In terms of easy access to resources, successful inventors provided highest ratings to patent attorneys, Internet sites, and the U.S.P.T.O., the latter two being largely available through remote access. Unsuccessful inventors largely echoed their successful counterparts in providing their ratings, with the slight exception of providing higher average ratings for the U.S.P.T.O. than the Internet sites.

Success and Geography

A larger share of rural inventors found commercial success than did their counterparts elsewhere. This is surprising considering the greater resources available in metropolitan areas. However, given that rural inventors only accounted for about 6.6 percent of survey participants, further investigation would be warranted before making solid conclusions about success rates.

Geographic Community Type				
	Atlanta 10- county metro	Metro county	Micro county	Rural county
Commercial success rate	35.4%	30.2%	33.3%	40.0%
Notes: Micropolitan and rural counties each include a small fraction of the inventors in this survey so percentages reflect relatively small numbers when compared to the Atlanta metro and Non-Atlanta metro counties. This table reflects data for only those inventors who chose to respond to this question which included 158 of the 178 participating metro Atlanta inventors, 86 of the 91 non-Atlanta metro inventors, 24 of the 27 micropolitan inventors and 20 of the 22 rural inventors.				

OTHER STUDIES ON INVENTORS

In 2005, Weick and Eakin released an empirical study entitled “Independent Inventors and Innovation,” published in the *International Journal of Entrepreneurship and Innovation*. Their study was based on the participation of independent inventors located throughout the United States. In 1991, Amesse et. al. released a study based on their survey of independent inventors in Canada. Beyond geographic scope differences, the Weick and Eakin study included all independent inventors, regardless of whether they received a patent, and the latter study included only those inventors of unassigned patents. Both have some comparable value to the 2007 Survey of Georgia's Independent Inventors as they focus on the independent inventor. The Georgia study included independent inventors with patents that are unassigned but many of those inventors revealed other inventions for which they either have assigned to an entity or achieved some other success or for which they have yet to seek a patent.

The *2007 Survey of Georgia's Independent Inventors* included 331 inventors. The two other studies included inventors from a much larger geographic area but had a similar size of independent inventor population to participate. The Weick and Eakin survey of U.S. inventors included 351 individuals and the Amesse, et al. survey included 374 Canadian inventors.

Following are some highlights of comparable findings.

- **Georgia's inventors appeared to be somewhat older.** The median age group for the Georgia inventors was 55 to 64 years. This represented a somewhat older group than those represented in the Weick and Eakin study whose median age group was 41 to 50 years. The Weick and Eakin study coincided with the earlier Amesse, et al. study that had a median age among its inventors of 40 to 54 years.
- **Georgia's inventors appeared to have more education than others in the U.S.** More than half (50.4 percent) of Georgia's inventors held a four-year college degree or higher. However, over one-fourth (26.4 percent) held an advanced degree in the form of a Ph.D., masters, medical, or juris doctorate degree. Approximately 70 percent of the inventors in the Weick and Eakin study reported to have a four-year degree or higher, which exceeded Georgia's rate, but its share (18 percent) of advanced-degree holders was smaller than that of Georgia. The Amesse, et al. survey revealed that 58 percent of the Canadian inventors had some post-graduate education, exceeding that of both Georgia and the United States. Whichever the geographic base, it is clear that there is a strong link between educational attainment and inventing.
- **The majority of independent inventors appeared to be male, no matter the study location.** In Georgia, 80.4 percent of the inventors were men and 15.7 percent women. This was highly similar to the Weick and Eakin study where 82 percent of the inventors were men and 17 percent were women. In the Amesse, et al. survey, 98.9 percent of the inventors were men while 1.1 percent were women.
- **Nearly one-third of inventions by Georgia inventors were reported to be commercialized.** Both the Weick and Eakin study, and the *2007 Survey of Georgia's Independent Inventors*, found that nearly one in three inventions taken to market reportedly achieve commercial success.

- **Georgia inventors appeared to have lower success in non-direct forms of commercialization.** In Georgia, 25.1 percent of the inventors achieved success through independent production and sales. The Weick and Eakin study revealed that 26 percent of inventors took their invention to the marketplace in a similar fashion. That's where the similarity ends. A greater share (44 percent) of the Weick and Eakin inventors reported to license their invention to another company, compared to 8.8 percent in Georgia, and 16 percent reportedly sold their invention outright, compared to 4.5 percent in Georgia.

METHODOLOGY

The *2007 Survey of Georgia's Independent Inventors* was conducted by a team of research professionals at the Georgia Tech Enterprise Innovation Institute. The research was approved by the Georgia Tech Institutional Review Board and conducted after consultation with the Georgia Tech Office of Research Compliance.

Targeted for this survey were inventors who had received at least one patent during the 10-year period of 1996 to 2006. To identify these inventors, the research team obtained patent data from the U.S. Patent and Trademark Office.

The data set was then screened for accuracy and loaded into a custom-designed database. It was limited to independent inventors living in Georgia who received a patent during the 10 years preceding the survey year of 2007.

Name and address information for each inventor in the original data set was evaluated through an external validation service. To the extent possible, updated contact information was provided. The validation service eliminated several inventor records due to names or addresses that could not be confirmed. This resulted in a data set of 3,077 individual patent holders.

The customized survey tool for collecting data on the inventors and their experiences was designed in partnership with Ann O'Neill and in consultation with Stephen Fleming, George Harker, and Tony Antoniadis.

The survey asked inventors questions relating to the following:

- Invention Experience — level of invention activity, motivation for invention(s), industry applications, level of commercial success, and current and future efforts toward commercialization.
- Help Received — sources of assistance, value of assistance by source, ease of access of assistance by source, types of assistance by category, and experience with technical and market evaluations.
- Help Needed — top unmet needs, interest in future training programs, interest in educational topics and delivery methods, and top needs by Georgia inventors.
- Their Background — area of expertise, demographics, type of community residence.

The survey process started with a mail campaign launched in January 2007. Surveys were mailed to each of the 3,077 patent holders confirmed through the validation process. Independent inventors were invited to participate on a voluntary basis. Of these patent holders, 649 appeared unreachable by mail (their surveys were returned due to incorrect address information). This resulted in an active survey pool of 2,428 inventors. More than 300 surveys were completed by inventors and returned via mail.

From March to June 2007, the research team conducted a phone campaign for those inventors where phone numbers could be attained in an attempt to reach inventors who had not responded to the survey. Calls were made to 1,185 inventors.

In July and August 2007, the research team reviewed each survey to determine its value for inclusion in the data analysis. Four surveys were removed from the survey pool. Three surveys were removed due to the inability to confirm the participant as an independent inventor. One survey was removed partly due to incomplete responses as well as to satisfy the respondent's request to be removed from our database and from any further research.

In the process, the team identified several values that were extreme in relation to the rest of the data and questioned the validity of the data. For instance, one of the survey questions asked for a number of inventions created in certain periods, in which three of the surveyed respondents indicated values that lay outside the range of the remainder of the data. For example, the respondents in question claimed to have invented more than 100 or as many as one 1,000 inventions in the period of 10 years, which researchers found to be unreasonably high. Given that such values could cause potential computational and inference problems, team members elected to eliminate surveys for such inventors from the analyses.

In total, 331 inventors were included in this survey, providing a return rate of 13.63 percent of those inventors with whom the research team had made at least one contact by mail or phone.

The research team officially closed the survey in August 2007. Specialists coded more than 113,202 data points and utilized SPSS for statistical analyses. The team used descriptive statistics to describe basic features of the survey participants and their responses, and employed univariate and bivariate analysis to obtain frequency distributions and measures of central tendencies. Inferential statistics were used to draw conclusions about the inventor population as whole.

CONCLUSION

Why consider independent inventors in your strategies for economic development? Collectively, these inventors account for a larger share of patents than those owned by a single corporation or entity, including major research universities, and many have reported to have realized some commercial success.

In addition, patent generation is accelerating among these inventors, and it appears there may be untapped potential for commercialization, business creation, and existing-industry innovation. Regarding the latter, take, for example, the significant interest expressed in partnering with a manufacturer. Many of Georgia's small-to-medium-sized manufacturers lack the budget and resources to directly invest in their own research and development. At the same time, many of the state's independent inventors do not have an interest in directly manufacturing their product or running a business, but could partner with a manufacturer and become an actual R&D resource.

The following are some things to keep in mind from reviewing the experiences of Georgia's independent inventory community.

1. A significant level of creativity and product development is being expressed by individuals across Georgia, and this activity is increasing.
2. Many inventors are "serial" inventors in that they are repeatedly inventing products, rather than being content with one "item of passion."
3. Georgia's inventors are developing technology-based inventions, many outside the domain of universities or other typical launch pads.
4. Independent inventors possess similar characteristics in terms of socioeconomics and other qualities and have their own culture as a "community of people," yet they appear disconnected from each other and from available resources.
5. The needs of the independent inventor community are diverse and largely not met, and there is a huge appetite among the independent inventor community for greater help.
6. Being an independent inventor and being an entrepreneur are not the same thing. Independent inventors do not necessarily possess the skills, talents, or desire to become entrepreneurs.
7. Given that creativity and innovation will continue to be imperative assets, the independent inventor represents a major untapped economic development opportunity. Nurturing and fostering creative talents among individuals who may be potential inventors and innovators should be a key component of any community-based strategy focused on workforce and human capital development from elementary school to college and beyond.

The results of the *2007 Survey of Georgia's Independent Inventors* are offered — in conjunction with the results of the *2007 Case Study Review of Inventor Assistance Organizations In the United States* research investigation — for future exploration in the potential development of a formal program to assist independent inventors in Georgia.

APPENDIX

Following is survey instrument used to conduct the 2007 Survey of Georgia's Independent Inventors.



Georgia Tech is conducting this survey of Georgia's independent inventors to provide a better understanding of your invention experiences and needs for future assistance. We appreciate your cooperation in making this survey a success. Your insights will be critical for identifying the potential for valuable programs to address unmet needs.

- All individual information will be kept in a secured, limited access location. Results will only be presented in an aggregated form. Your identity will not be revealed in any publication or presentation of the results of this survey.
- If you do not wish to answer or don't know the answer to a question, please just leave it blank.
- In return for completing your survey, we will send you a summary report on all responses received.

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

Joy Wilkins
Enterprise Innovation Institute
Georgia Institute of Technology
760 Spring Street, NW
Atlanta, Georgia 30332-0640

Questions about the survey?

Telephone: 404-895-6115
E-mail: joy.wilkins@innovate.gatech.edu

THANK YOU FOR YOUR HELP!

I. PLEASE TELL US ABOUT YOUR INVENTION EXPERIENCE

By U.S. Patent Law, an invention is defined as “a new, useful process, machine, improvement, etc., that did not exist previously and that is recognized as the product of some unique intuition or genius, as distinguished from ordinary mechanical skill or craftsmanship.” (Dictionary.com Unabridged v 1.0.1)

1.1 Over the 10-year period of 1996 to 2006, how many inventions have you created? _____ inventions

1.1a How many of these were within the last five years? _____ inventions

1.1b How many of these were within the last year? _____ inventions

1.2 How many inventions have you created during the past 10 years **AS AN INDEPENDENT INVENTOR**, or someone who is not associated with a specific company, academic institution, or other organization? _____ inventions

1.3 How many inventions have you created during the past 10 years **WHILE EMPLOYED OR AFFILIATED WITH COMPANY**, academic institution, or other organization which owns or partially owns them? _____ inventions

1.4a Please describe your invention (or if more than 1) Which of your inventions was most profitable, whether to you or to the company that licensed it? (Please describe)

1.4b For the invention you've described, what motivated you to create this invention?

1.5 In which of the following areas have you created inventions? (Check all that apply)

- ☐ Aerospace
- ☐ Agriscience
- ☐ Automotive
- ☐ Business & Financial Services
- ☐ Chemical
- ☐ Consumer Products
- ☐ Energy, Environmental
- ☐ Homeland Security
- ☐ Pharmaceuticals and Biotech

- ☐ Logistics, Transportation
- ☐ Medical Devices and Equipment
- ☐ Other Healthcare
- ☐ Multimedia
- ☐ Nanotechnology
- ☐ Software
- ☐ Telecommunications
- ☐ Other

If you checked the following, please specify.

Consumer Products: _____

Other Healthcare: _____

Other: _____

- 1.6 Of all the inventions you've created during the past 10 years, how many patents have you applied for? _____ patents applied
- 1.7 Of these, how many have received patents assigned to you? _____ patents received
- 1.8 How many have received patents assigned to your employer or another entity? _____ patents assigned
- 1.9 Of the patents assigned to you, how many have lapsed or been abandoned? _____ lapsed patents
- 1.10 Of the patents assigned to you during the last 10 years, how many have achieved commercial success? This is defined as: (1) producing and selling the product at a profit, (2) licensing the product to be produced by others such that the proceeds to you exceed your cost of development, OR (3) assigning (selling) your patent to another entity
- _____ achieved success through independent production and sales
- _____ achieved success through licensing to another entity
- _____ achieved success through assigning (selling) to another entity
- 1.11 Are you currently attempting to create your own company to personally commercialize and market any of your patented inventions?
- ☐ Yes ☐ No
- 1.12 Are you currently partnering with an entrepreneur or seeking an entrepreneur to partner with for commercializing any of your patented inventions?
- ☐ Working with entrepreneur partner
- ☐ Seeking an entrepreneur partner
- ☐ Neither
- 1.13 Are you seeking licensing agreements on any patented, but so far un-commercialized inventions?
- ☐ Yes ☐ No
- 1.14 Are you seeking opportunities to assign (sell) your patented invention to another entity?
- ☐ Yes ☐ No
- 1.15 In general, which appeals to you more? (Please check only one answer.)
- ☐ Building your own company to commercialize your invention
- ☐ Partnering with an entrepreneur to build a company to commercialize your invention
- ☐ Licensing your invention to an existing company
- ☐ Assigning (selling) the rights to your invention

2. PLEASE TELL US ABOUT ANY HELP YOU RECEIVED

- 2.1a What was the single most valuable source of outside assistance enabling you to successfully develop and market or license this invention? (Most profitable)

- 2.1b What type of assistance did they provide that you found most helpful?

- 2.2a Have you ever gotten information, advice, or technical assistance with developing or commercializing an invention from any of the following entities? (Please check as many as apply).

- | | |
|---|---|
| <input type="checkbox"/> Banks | <input type="checkbox"/> Patent Attorneys |
| <input type="checkbox"/> Business Angels | <input type="checkbox"/> Public Libraries |
| <input type="checkbox"/> Design College (e.g., SCAD) | <input type="checkbox"/> Private (Non-University) Laboratory |
| <input type="checkbox"/> Design Consultants | <input type="checkbox"/> Small Business Development Center (SBDC) |
| <input type="checkbox"/> Engineering Consultants | <input type="checkbox"/> Technical College Resources |
| <input type="checkbox"/> Federal Laboratory | <input type="checkbox"/> Trade Associations |
| <input type="checkbox"/> Idea Brokers | <input type="checkbox"/> University Resources |
| <input type="checkbox"/> Internet Sites | <input type="checkbox"/> US Patent & Trademark Office (USPTO) |
| <input type="checkbox"/> Inventors Clubs or Associations | <input type="checkbox"/> US Small Business Administration (SBA) |
| <input type="checkbox"/> Local Chamber Of Commerce / Business Association | <input type="checkbox"/> Other Federal Agencies |
| <input type="checkbox"/> Marketing Consultants | <input type="checkbox"/> Other State Agencies |
| <input type="checkbox"/> Patent Agents | <input type="checkbox"/> Other |

If you checked the following, please name the specific entity providing the help.

Internet Sites:

Technical College Resources:

University Resources:

Other Federal Agencies:

Other State Agencies:

Others:

- 2.2b How would you rate the **VALUE OF THE ASSISTANCE** they were able to provide? (For each entity, please rate on a scale of one to five where one means “not at all valuable” and five means “very valuable.” Please check only one answer for each entity that assisted you).

	Not Valuable				Very Valuable	
	One	Two	Three	Four	Five	
Banks	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Business Angels	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Design College (e.g., SCAD)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Design Consultants	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Engineering Consultants	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Federal Laboratory	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Idea Brokers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Internet Sites	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Inventors' Clubs/Associations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Local Chamber of Commerce / Business Association	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Marketing Consultants	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Patent Agents	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Patent Attorneys	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Private (Non-University) Laboratory	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Public Libraries	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Small Business Development Centers (SBDC)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Technical College Resources	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Trade Associations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
University Resources	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
U.S. Patent & Trademark Office (USPTO)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
U.S. Small Business Administration (SBA)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Other Federal Agencies	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Other State Agencies	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Other	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

- 2.2c How would you rate the **EASE WITH WHICH YOU ACCESSED** the resource? (For each entity, please rate on a scale of one to five where one means “very difficult” and five means “very easy.” Please check only one answer for each entity that assisted you).

	Very Difficult				Very Easy	
	One	Two	Three	Four	Five	
Banks	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Business Angels	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Design College (e.g., SCAD)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Design Consultants	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Engineering Consultants	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Federal Laboratory	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Idea Brokers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Internet Sites	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Inventors' Clubs/Associations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Local Chamber of Commerce / Business Association	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Marketing Consultants	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Patent Agents	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Patent Attorneys	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Private (Non-University) Laboratory	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Public Libraries	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Small Business Development Centers (SBDC)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Technical College Resources	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

	Very Difficult				Very Easy
	One	Two	Three	Four	Five
Trade Associations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
University Resources	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
U.S. Patent & Trademark Office (USPTO)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
U.S. Small Business Administration (SBA)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other Federal Agencies	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other State Agencies	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

2.2d How far are these resources from where you live?

	Within 15 Miles	15 to 30 Miles	More Than 30 Miles	Don't Know
Banks	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Business Angels	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Design College (e.g., SCAD)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Design Consultants	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Engineering Consultants	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Federal Laboratory	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Idea Brokers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Internet Sites	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Inventors' Clubs/Associations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Local Chamber of Commerce / Business Association	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Marketing Consultants	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Patent Agents	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Patent Attorneys	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Private (Non-University) Laboratory	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Public Libraries	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Small Business Development Centers (SBDC)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Technical College Resources	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Trade Associations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
University Resources	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
U.S. Patent & Trademark Office (USPTO)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
U.S. Small Business Administration (SBA)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other Federal Agencies	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other State Agencies	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

2.3 Please rate the value of each of the following types of assistance to you as an inventor. (For each entity, please rate on a scale of one to five where one means "not at all valuable" and five means "very valuable." Please check only one answer for each type of assistance).

	Not Valuable				Very Valuable
	One	Two	Three	Four	Five
Third Party Evaluation					
• Technical Evaluation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• Intellectual Property Evaluation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• Commercial Evaluation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Literature Review					
• Scientific/Technical Literature	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	Not Valuable	One	Two	Three	Four	Very Valuable
Technical/Scientific Assistance Or Advice						
• Design	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• Research	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• Prototyping	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• Product or Process Testing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Intellectual Property Assistance or Advice						
• Patent or Trademark Search	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• Legal Consultation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• Patent Application	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• Trademark Registration	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Business Assistance Or Advice						
• Licensing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• Planning / Roadmapping	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• Marketing and Sales	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• Manufacturing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• Human Resources	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• Accounting	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• Information Technology	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Financing						
• Advice on Obtaining Financing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• Access to Financing Sources	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Incubator Services						
• Access to Facilities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• Management and Technical Assistance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

2.4a How many of your inventions have undergone a technical evaluation prior to any attempts at commercialization?

_____ inventions receiving technical evaluation (IF NONE, SKIP TO QUESTION 2.5)

2.4b If you answered at least “1” to Question 2.4a, did you obtain a technical evaluation for your most successful invention?

☐ Yes ☐ No

2.4c If you answered “yes” to Question 2.4b, from what organization did you obtain that evaluation?

2.4d If you have ever obtained a technical evaluation on any of your inventions, how would you rate the evaluation on the following factors? (For each item, please rate on a scale of one to five where one means “not at all valuable” and five means “very valuable.” Please check only one answer for each item.).

	Not Valuable	One	Two	Three	Four	Very Valuable
Technical expertise of the evaluator	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Thoroughness	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ability to identify technical flaws in the invention	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ability to suggest improvements to the invention	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- 2.5a How many of your inventions have undergone a market evaluation prior to any attempts at commercialization?

_____ inventions receiving market evaluation (IF NONE, SKIP TO QUESTION 3.1)

- 2.5b If you answered at least “1” to Question 2.5a, did you obtain a market evaluation for your most successful invention?

☐ Yes ☐ No

- 2.5c If you answered “yes” to Question 2.5b, from what type of organization or entity did you obtain that evaluation?

- 2.5d If you have ever obtained a market evaluation on any of your inventions, how would you rate the evaluation on each of the following factors? (For each item, please rate on a scale of one to five where one means “not at all valuable” and five means “very valuable.” Please check only one answer for each item.).

	Not Valuable				Very Valuable
	One	Two	Three	Four	Five
Market or product knowledge of the evaluator	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Thoroughness	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ability to determine the probability of successful commercialization	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ability to provide useful feedback	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Value for the money	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

3. PLEASE TELL US ABOUT THE HELP YOU NEED

- 3.1 Do you have inventions that require further design or other assistance to make them viable products?

☐ Yes ☐ No (IF NO, SKIP TO QUESTION 3.2.)

(IF YES) Which of the following resources would you consider working with to conduct such assistance? (Check all that apply)

- | | |
|---|---|
| <input type="checkbox"/> Banks | <input type="checkbox"/> Patent Attorneys |
| <input type="checkbox"/> Business Angels | <input type="checkbox"/> Public Libraries |
| <input type="checkbox"/> Design College (e.g., SCAD) | <input type="checkbox"/> Private (Non-University) Laboratory |
| <input type="checkbox"/> Design Consultants | <input type="checkbox"/> Small Business Development Center (SBDC) |
| <input type="checkbox"/> Engineering Consultants | <input type="checkbox"/> Technical College Resources |
| <input type="checkbox"/> Federal Laboratory | <input type="checkbox"/> Trade Associations |
| <input type="checkbox"/> Idea Brokers | <input type="checkbox"/> University Resources |
| <input type="checkbox"/> Internet Sites | <input type="checkbox"/> U.S. Patent & Trademark Office (USPTO) |
| <input type="checkbox"/> Inventors Clubs or Associations | <input type="checkbox"/> U.S. Small Business Administration (SBA) |
| <input type="checkbox"/> Local Chamber Of Commerce / Business Association | <input type="checkbox"/> Other Federal Agencies |
| <input type="checkbox"/> Marketing Consultants | <input type="checkbox"/> Other State Agencies |
| <input type="checkbox"/> Patent Agents | <input type="checkbox"/> Other: _____ |

3.2 Please describe any unmet needs you have as an inventor in the following categories:

Third Party Evaluation:

Literature Review:

Technical/Scientific Assistance or Advice:

Intellectual Property Assistance or Advice:

Business Assistance or Advice:

Financing:

Incubator Services:

3.3 In general, are you interested in training programs or workshops to enhance your skills as an inventor?

☐ Yes☐ No

3.4 (IF YES) Please rate your interest in the following educational topics. (For each topic, please rate on a scale of one to five where one means "not at all interested" and five means "very interested." Please check only one answer for topic.).

	Not Interested			Very Interested	
	One	Two	Three	Four	Five
Protecting intellectual property (IP)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Building prototypes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Licensing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Manufacturing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Building a small business	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Marketing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Financing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

If you checked "Other," please describe the other educational topic which interests you:

- 3.5 Please rank the following delivery methods for educational opportunities, with "1" being the method you most prefer, "2" being your second choice, and so on. (Please use each number only once, e.g., no ties)

- ☐ In-person courses or workshops
☐ Networking events
☐ Internet-based courses or workshops
☐ Online "self-help" materials
☐ Pre-recorded courses or workshops (DVD or video tape)
☐ Pre-recorded audio-only courses or workshops (CD or cassette tape)
☐ Hardcopy handbooks or workbooks

- 3.6 What are the top three things needed by inventors in Georgia?

1.

2.

3.

4. PLEASE TELL US ABOUT YOURSELF

- 4.1 What is your main area of expertise?

- 4.2 In what industry are you employed or have you been employed in the past? (Most recent)

- 4.3 Please check the category that matches your age.

- | | |
|-----------------------------------|---|
| <input type="checkbox"/> Under 19 | <input type="checkbox"/> 55 - 64 |
| <input type="checkbox"/> 20 - 24 | <input type="checkbox"/> 65 - 74 |
| <input type="checkbox"/> 25 - 34 | <input type="checkbox"/> 75 or more |
| <input type="checkbox"/> 35 - 44 | <input type="checkbox"/> Prefer not to answer |
| <input type="checkbox"/> 45 - 54 | |

- 4.4 What is your occupation? (Please check only one answer)

- | | |
|--|--|
| <input type="checkbox"/> Student | <input type="checkbox"/> Production, Transportation, Material Moving |
| <input type="checkbox"/> Management and Professional | <input type="checkbox"/> Unemployed |
| <input type="checkbox"/> Service (child care, cosmetology, etc.) | <input type="checkbox"/> Self-employed |
| <input type="checkbox"/> Sales and Office | <input type="checkbox"/> Retired |
| <input type="checkbox"/> Farming, Forestry, Fishing | <input type="checkbox"/> Other: <hr/> |
| <input type="checkbox"/> Construction and Maintenance | <input type="checkbox"/> Prefer not to answer |

4.5 What is the highest level of education you completed? (Please check only one answer)

- | | |
|--|---|
| <input type="checkbox"/> Less than high school | <input type="checkbox"/> Four-year college graduate |
| <input type="checkbox"/> High school graduate | <input type="checkbox"/> Some post-graduate study |
| <input type="checkbox"/> Some college/no degree | <input type="checkbox"/> Advanced degree (masters, PhD, MD, JD) |
| <input type="checkbox"/> Associate (2 year) degree | <input type="checkbox"/> Prefer not to answer |

4.6 What is the approximate total annual income for your household? (Please check only one answer)

- | | |
|---|---|
| <input type="checkbox"/> Less than \$10,000 | <input type="checkbox"/> \$75,000 to \$99,999 |
| <input type="checkbox"/> \$10,000 to \$14,999 | <input type="checkbox"/> \$100,000 to \$149,000 |
| <input type="checkbox"/> \$15,000 to \$24,999 | <input type="checkbox"/> \$150,000 to \$199,000 |
| <input type="checkbox"/> \$25,000 to \$34,999 | <input type="checkbox"/> \$200,000 or more |
| <input type="checkbox"/> \$35,000 to \$49,000 | <input type="checkbox"/> Prefer not to answer |
| <input type="checkbox"/> \$50,000 to \$74,999 | |

4.7 What is your gender?

- ☐ Male
☐ Female
☐ Prefer not to answer

4.8 Which of the following categories best matches your racial or ethnic background? (Check as many as apply)

- | | |
|---|---|
| <input type="checkbox"/> African American | <input type="checkbox"/> Hispanic |
| <input type="checkbox"/> Asian / Pacific Islander | <input type="checkbox"/> Native American |
| <input type="checkbox"/> Caucasian / White | <input type="checkbox"/> Prefer not to answer |

4.9 In what city or town did you live for the largest portion of 2006?

City: _____

State: _____

4.10 How many years have you lived there?

_____ years

4.11 What was your original hometown, if not where you live now?

City: _____

State: _____

Country: _____

4.12 For how many years did you live there?

_____ years

THANK YOU FOR YOUR TIME AND INSIGHTS!

**IF YOU'D LIKE TO RECEIVE A SUMMARY REPORT OF SURVEY RESULTS,
PLEASE PROVIDE YOUR CONTACT INFORMATION BELOW.**

.

Name:

Street Address:

City:

State:

Zip Code:

Email Address:

Phone:

Fax:

Website: