

USTAR Private Sector Economic Impact Study 2016

September 26, 2016

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U S T A R

Table of Contents

| | |
|---|-----------|
| SUMMARY | 3 |
| UNIVERSITY OF UTAH LICENSEES | 9 |
| UTAH STATE UNIVERSITY LICENSEES..... | 10 |
| SBIR/STTR ASSISTANCE CENTER..... | 11 |
| BIOINNOVATIONS GATEWAY..... | 12 |
| USTAR FUNDING PROGRAMS | 13 |
| USTAR REGIONAL OUTREACH CENTERS | 14 |
| Companies that received 20 or more hours of training or mentoring | 15 |
| Companies that received other, non-financial USTAR assistance | 16 |
| METHODOLOGY | 17 |
| APPENDIX I: SURVEY INSTRUMENT..... | 20 |

Summary

About This Report

This report presents the private sector economic impacts in calendar year 2015 from USTAR client companies and companies that licensed technologies developed by USTAR-supported faculty at University of Utah and Utah State University, based on 140 company responses to an online survey. The impacts reported here are the aggregated responses to the USTAR client company survey. No extrapolation or imputation was used for companies that did not respond.

USTAR's statute was altered in the spring 2016 Utah legislative session, making significant changes to how resources were allocated between its two primary activities: (1) supporting technology-based startups and companies through training, funding, incubator and accelerator programs and (2) recruiting and funding star university faculty at University of Utah and Utah State University. The new statute shifted more funding toward programs that support technology-based startups and companies and away from recruitment and salaries for university faculty. Following these changes, USTAR began several new economic development programs and significantly altered several of its existing programs. This report establishes the baseline for annual impacts for this new direction for USTAR, following metrics laid out in USTAR's statutory reporting requirements.

SRI asked the USTAR client companies report the following:

- **Follow-on investment:** This includes total private investment in USTAR client companies by angel investors, other companies, venture capital firms, and banks, as well as public investments in the form of awards of federal Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) grants and other federal funding for technology development and commercialization activities in 2015.
- **Annual revenue:** This includes sales of products and services, licensing revenue, or other types of revenue generated by the company in 2015. SRI has found that many private companies are often reluctant to report their total annual revenue, even when their responses are anonymized. For this reason, the survey allowed companies to choose a revenue option from within predefined ranges of revenues.
- **Product sales:** This includes the 2015 sales of new products and services introduced into the marketplace.
- **Jobs and Salaries:** This includes the total number of full-time and part time employees at the company, as well as the number of full-time and part-time jobs (including consultants) that client companies added in 2015. SRI also asked for the average salaries of the new jobs added in 2015.

USTAR seeks to spur economic development by helping to bridge the "valley of death" for technology-based startups and companies by providing financial support, training, mentoring, and other business services. For entities with these goals, follow-on investment is a critical leading indicator – more so than the classic economic development metrics of revenue and jobs. Follow-on investment

shows where a company has developed a product and value proposition that are compelling enough to motivate private sector investors to invest in the company and/or to receive funding from public grant programs (such as the federal SBIR and STTR programs). These follow-on investments give startup companies the resources they need to bring their technologies out of the laboratory and into the marketplace. For this reason, follow-on investments will typically precede impacts from sales and jobs by a significant period of time, which can vary depending on the type of technology involved.

USTAR's economic development programs typically engage with companies that have technologies in the proof of concept and validation stages of development, meaning that these clients are pre-revenue companies still developing the products they hope to eventually commercialize and sell. Because many of USTAR's programs are relatively new and work with companies with early stage technologies, it is likely many USTAR clients, including those that will eventually grown into large successful companies, will remain pre-revenue for several years following their engagement with USTAR. Therefore, the growth in follow-on investments is the most meaningful short-term indicator of USTAR program impact on client companies, whereas jobs and sales are lagging indicators that demonstrate impacts in the medium- and long-term.

USTAR Client Companies

SRI surveyed companies that could be classified into at least one of the following categories:

- Licensed a technology from a USTAR-supported faculty member at the University of Utah or Utah State University.
- Received assistance from the USTAR SBIR/STTR Assistance Center (SSAC) in preparing federal grant applications.
- Were tenants of USTAR's Bioinnovations Gateway (BiG) incubator.
- Received funding through the Go-to-Market program (G2M).
- Received more than 20 hours of training or mentoring from one of USTAR's Regional Outreach Centers.
- Received other types of non-financial support from USTAR.

Detailed information on the response rates and impacts for each of these populations can be found in Table 1 and in the subsequent sections of this report.

Overall Impacts for USTAR’s Economic Development Programs

Companies that participated in one of USTAR’s economic development programs reported the following impacts:

- Respondents received \$19,128,685 in public and private sector follow-on investment in 2015.
- Respondents had annual revenues within the following ranges:

| Annual Revenue | Pre-revenue | \$0 - \$100,000 | \$100,000 – \$500,000 | \$500,000- \$1,000,000 | \$1,000,000 - \$5,000,000 | More than \$5,000,000 |
|---------------------|-------------|-----------------|-----------------------|------------------------|---------------------------|-----------------------|
| Number of companies | 53 | 25 | 18 | 9 | 15 | 8 |

Note: 9 companies did not respond to the revenue question.

- Respondents generated \$5,320,000 in sales in 2015 from a recently commercialized product or service.
- Respondents added 54 new full-time and 45 new part-time jobs in 2015.
- Respondents added 45 full-time and 14 part-time new jobs over the 2015 average county wage.
- Respondents added \$2,820,600 in new wages in 2015 from new jobs.
- Respondents generated \$1,600,487 in 2015 state and local taxes from revenue and wages.

Overall Impacts for University of Utah and Utah State University Licensees

Companies that licensed a technology developed by a USTAR-supported faculty member at the University of Utah or Utah State University reported the following impacts:

- Respondents received \$3,529,685 in public and private sector follow-on investment in 2015.
- Respondents had annual revenues within the following ranges:

| Annual Revenue | Pre-revenue | \$0 - \$100,000 | \$100,000 – \$500,000 | \$500,000- \$1,000,000 | \$1,000,000 - \$5,000,000 | More than \$5,000,000 |
|---------------------|-------------|-----------------|-----------------------|------------------------|---------------------------|-----------------------|
| Number of companies | 7 | 1 | 1 | 2 | 2 | 2 |

Note: 1 company did not respond to the revenue question.

- Respondents generated \$3,300,000 in sales in 2015 from a recently commercialized product or service.
- Respondents added 7 new full-time and 6 new part-time jobs in 2015.
- Respondents added 2 full-time new jobs over the 2015 average county wage.
- Respondents added \$460,000 in new wages in 2015 from new jobs.
- Respondents generated \$320,000 in 2015 state and local taxes from revenue and wages.

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Table 1: Overall 2015 impacts for USTAR client companies, by USTAR program

| | SSAC Clients | BiG Clients | G2M Grantees | USU Licensees | U of U Licensees | 20+ hours of training | Other outreach services |
|--|--------------|-------------|--------------|---------------|------------------|-----------------------|-------------------------|
| Number of respondents | 44 | 32 | 19 | 5 | 12 | 28 | 34 |
| Total number of companies | 50 | 33 | 106 | 12 | 16 | 38 | 196 |
| Response rate for group | 88% | 97% | 18% | 41.7% | 75% | 73.6% | 17.3% |
| Total Follow-On Investment: | \$10,330,685 | \$9,237,000 | \$258,000 | \$44,685 | \$3,485,000 | \$1,915,000 | \$645,000 |
| New Sales: | \$1,680,000 | \$642,000 | \$100,000 | \$3,100,000 | \$200,000 | \$78,000 | \$20,000 |
| New Jobs: | | | | | | | |
| Full Time | 21 | 11 | 1 | 0 | 7 | 12 | 12 |
| Part Time | 11 | 17 | 4 | 0 | 6 | 15 | 1 |
| Revenue (# of companies in each range): | | | | | | | |
| Pre-Revenue | 18 | 13 | 10 | 0 | 7 | 9 | 13 |
| \$0-\$100,000 | 5 | 8 | 3 | 1 | 0 | 4 | 6 |
| \$100,000-\$500,000 | 6 | 7 | 4 | 0 | 1 | 5 | 1 |
| \$500,000-\$1,000,000 | 6 | 3 | 0 | 1 | 1 | 2 | 1 |
| \$1,000,000-\$5,000,000 | 4 | 1 | 1 | 2 | 0 | 3 | 5 |
| Greater than \$5,000,000 | 1 | 0 | 1 | 1 | 1 | 4 | 3 |

Note: These programs are not mutually exclusive, and many companies that responded to the survey participated in more than one of the program listed in this table. Therefore, the impacts for follow-on investments, jobs, and sales from the individual USTAR programs contain some overlap and will sum to more than the total impacts reported on page 4 of this report. More information about the overlap between these programs can be found in the subsequent sections of this report.

Overall Impacts by Annual Cohort

The following section describes the overall impacts from USTAR client companies by annual “cohort”.¹ A company’s cohort is defined by the first year that it reported that it received USTAR assistance. For example, if a company reported that it received some form of USTAR assistance in 2010, 2011, and 2012, then the company was placed in the 2010 cohort, as that was the first year that it received assistance.

Table 2: Number of companies by 2015 annual revenue category, by cohort

| | Pre-revenue | \$0 - \$50,000 | \$50,000 - \$100,000 | \$100,000 - \$200,000 | \$200,000 - \$500,000 | \$500,000 - \$1,000,000 | \$1,000,000 - \$2,000,000 | \$2,000,000 - \$5,000,000 | Greater than \$5,000,000 |
|----------------|-------------|----------------|----------------------|-----------------------|-----------------------|-------------------------|---------------------------|---------------------------|--------------------------|
| 2008 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 |
| 2009 | 3 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 |
| 2010 | 1 | 0 | 0 | 0 | 2 | 0 | 0 | 1 | 0 |
| 2011 | 2 | 0 | 1 | 0 | 1 | 0 | 2 | 2 | 0 |
| 2012 | 5 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 1 |
| 2013 | 8 | 3 | 2 | 2 | 1 | 2 | 2 | 0 | 0 |
| 2014 | 14 | 7 | 1 | 2 | 1 | 2 | 0 | 1 | 1 |
| 2015 | 15 | 4 | 0 | 0 | 1 | 1 | 0 | 2 | 1 |
| 2016 | 5 | 4 | 1 | 2 | 3 | 0 | 1 | 1 | 4 |
| Not Applicable | 6 | 1 | 1 | 0 | 1 | 0 | 0 | 3 | 3 |

¹ SRI’s survey asked respondents in which years they had received services. Companies were allowed to choose more than one year in which they received services or to select “Not applicable”. A company might select “Not applicable” if, for example, it licensed a technology that was developed by a USTAR-supported faculty member but had never made use of any USTAR programs.

Table 3: 2015 Total follow-on investment, by cohort

| | Number of companies reporting follow-on investment | Total amount of follow-on investment |
|----------------|--|--------------------------------------|
| 2008 | 2 | \$926,000 |
| 2009 | 3 | \$894,685 |
| 2010 | 2 | \$607,000 |
| 2011 | 2 | \$1,350,000 |
| 2012 | 3 | \$4,130,000 |
| 2013 | 7 | \$5,774,000 |
| 2014 | 6 | \$1,875,500 |
| 2015 | 7 | \$3,071,500 |
| 2016 | 1 | \$500,000 |
| Not Applicable | 0 | \$0 |

Note: One company reported that they only received USTAR services in 2016 and reported follow-on investment impacts in 2015; this company licensed a technology developed by a USTAR-supported faculty member prior to 2015.

Table 4: Number of new jobs created in 2015, by cohort

| | Number of new full time jobs | Number of new part time jobs |
|----------------|------------------------------|------------------------------|
| 2008 | 4 | 1 |
| 2009 | 0 | 2 |
| 2010 | 0 | 2 |
| 2011 | 21 | 1 |
| 2012 | 3 | 3 |
| 2013 | 5 | 20 |
| 2014 | 6 | 6 |
| 2015 | 14 | 8 |
| 2016 | 5 | 2 |
| Not Applicable | 1 | 0 |

Note: Two companies reported that they only received USTAR services in 2016 and reported new job impacts in 2015; both companies licensed technologies developed by USTAR-supported faculty prior to 2015. One company selected “Not applicable” for receiving USTAR services and reported new jobs impacts in 2015; SRI consulted internal records provided by USTAR and found that company had been a tenant at the Bioinnovations Gateway prior to 2015.

Table 5: 2015 sales, by cohort

| | Number of respondents reporting sales from newly commercialized products | Total sales from newly commercialized products |
|----------------|--|--|
| 2008 | 0 | \$0 |
| 2009 | 1 | \$250,000 |
| 2010 | 1 | \$37,000 |
| 2011 | 1 | \$3,100,000 |
| 2012 | 1 | \$1,000,000 |
| 2013 | 3 | \$343,000 |
| 2014 | 4 | \$260,000 |
| 2015 | 1 | \$30,000 |
| 2016 | 2 | \$300,000 |
| Not Applicable | 0 | \$0 |

Note: One company reported that they only received USTAR services in 2016 and reported sales impacts in 2015; this company licensed a technology developed by a USTAR-supported faculty member prior to 2015.

Overall Job Impacts by County

This section compares the reported new jobs added by USTAR client companies to the average county wage in the county in which those companies are located. Average county wage data was drawn from the Bureau of Labor Statistics 2015 average annual wage (for both full-time and part-time jobs) by county dataset.²

Table 6: 2015 full-time and part-time jobs, average wage, and comparison to county average wage, by county

| County | Average County Wage | # of Full-Time Jobs (Average Wage) | # of Part-Time Jobs (Average Wage) | # of Jobs above County Average Wage |
|--------------|---------------------|------------------------------------|------------------------------------|-------------------------------------|
| Box Elder | \$35,700 | 1 (\$85,000) | 1 (\$15,000) | 1 |
| Davis | \$41,374 | 3 (\$70,000) | 0 | 2 |
| Salt Lake | \$50,114 | 31 (\$90,864) | 24 (\$33,826) | 27 |
| Summit | \$41,046 | 2 (wage not reported) | 2 (wage not reported) | 0 |
| Utah | \$41,622 | 14 (\$78,571) | 8 (\$17,029) | 13 |
| Washington | \$32,515 | 6 (\$55,000) | 10 (\$90,000) | 16 |
| Total | - | 53 (\$79,966) | 43 (\$44,200) | 55 |

² Link to BLS dataset can be found here: http://data.bls.gov/cew/apps/table_maker/v4/table_maker.htm#type=2&st=49&year=2015&qtr=A&own=0&ind=10&supp=0

University of Utah Licensees

The following section details the economic impacts reported by companies that licensed a technology from a USTAR-supported researcher at the University of Utah. Of the 16 licenses executed by University of Utah since 2011, 12 remain active. Four licenses were terminated; one was terminated in 2011, two in 2014, and one in 2015.

| Impacts from UofU licensees in 2015 | | |
|-------------------------------------|---|--|
| Response Rate: | | 75% (12 of 16 licensees responding) |
| Follow-on Investment | Total | \$3,485,000 |
| | Commercial Lending | \$0 |
| | Private Investors | \$750,000 |
| | Strategic Partners | \$300,000 |
| | Institutionally Managed Venture Capital | \$0 |
| | Federal SBIR/STTR award | \$1,250,000 |
| | Other Federal grants or contracts | \$1,000,000 |
| | Other Utah Programs | \$185,000 |
| | Other sources | \$0 |
| Sales: | | \$200,000 |
| Jobs: | | |
| | # Full-time (Avg. Salary) | 7 (\$130,000) |
| | # Part-time (Avg. Salary) | 6 (\$33,000) |
| | # of Jobs above county average wage | 2 |

Of the 12 University of Utah licensees who responded to the survey, four of the companies also reported participation in other USTAR programs listed in this report: two companies also were clients of the SBIR/STTR Assistance Center, and two companies were tenants of the Bioinnovations Gateway.

Utah State University Licensees

The following section details the economic impacts reported by companies that licensed a technology from a USTAR-supported researcher at the Utah State University. Of the 12 licenses executed by USU since 2007, 8 remain active. One license expired in 2014 and three were terminated in 2015.

| Impacts from USU licensees in 2015 | | |
|------------------------------------|---|---|
| Response Rate: | | 41.7% (5 of 12 licensees responding) |
| Follow-on Investment | Total | \$44,685 |
| | Commercial Lending | \$0 |
| | Private Investors | \$0 |
| | Strategic Partners | \$44,685 |
| | Institutionally Managed Venture Capital | \$0 |
| | Federal SBIR/STTR award | \$0 |
| | Other Federal grants or contracts | \$0 |
| | Other Utah Programs | \$0 |
| | Other sources | \$0 |
| Sales: | | \$3,100,000 |
| Jobs: | | |
| | # Full-time (Avg. Salary) | 0 |
| | # Part-time (Avg. Salary) | 0 |
| | # of Jobs above county average wage | 0 |

Of the five Utah State University licensees who responded to the survey, three of the companies also reported participation in other USTAR programs listed in this report: two companies also were clients of the SBIR/STTR Assistance Center, one company was a tenant of the Bioinnovations Gateway, and one received a Go-to-Market grant.

SBIR/STTR Assistance Center

USTAR's SBIR/STTR Assistance Center (SSAC) is a partnership with the Salt Lake Community College Miller Resource Center and works with the state's technology companies on SBIR/STTR grants.

| Impacts from SSAC clients in 2015 | | |
|-----------------------------------|---|--------------------------------------|
| Response Rate: | | 88% (44 of 50 clients responding) |
| Follow-on Investment | Total | \$10,330,685 |
| | Commercial Lending | \$239,000 |
| | Private Investors | \$2,249,000 |
| | Strategic Partners | \$344,685 |
| | Institutionally Managed Venture Capital | \$20,000 |
| | Federal SBIR/STTR award | \$5,584,000 |
| | Other Federal grants or contracts | \$1,000,000 |
| | Other Utah Programs | \$387,000 |
| | Other sources | \$507,000 |
| Sales: | | \$1,680,000 |
| Jobs: | | |
| | # Full-time (Avg. Salary) | 21 (\$86,850) |
| | # Part-time (Avg. Salary) | 11 (\$30,818) |
| | # of Jobs above county average wage | 19 |

Of the 44 SSAC client companies who responded to the survey, 21 of the companies also reported participation in other USTAR programs listed in this report: 14 companies also were tenants of the Bioinnovations Gateway, three received more than 20 hours of training or mentoring from one of USTAR's Regional Outreach Centers, two were University of Utah licensees and two were Utah State University licensees.

Bioinnovations Gateway

The Bioinnovations Gateway (BiG) is a life science incubator for emerging biotech and medical device companies and is a collaborative effort between Granite School District and USTAR.

| Impacts from BiG clients in 2015 | | |
|----------------------------------|---|--------------------------------------|
| Response Rate: | | 97% (32 of 33 clients responding) |
| Follow-on Investment | Total | \$9,237,000 |
| | Commercial Lending | \$70,000 |
| | Private Investors | \$5,804,000 |
| | Strategic Partners | \$895,000 |
| | Institutionally Managed Venture Capital | \$420,000 |
| | Federal SBIR/STTR award | \$1,219,000 |
| | Other Federal grants or contracts | \$0 |
| | Other Utah Programs | \$242,000 |
| | Other sources | \$587,000 |
| Sales: | | \$642,000 |
| Jobs: | | |
| | # Full-time (Avg. Salary) | 11 (\$74,222) |
| | # Part-time (Avg. Salary) | 17 (\$28,114) |
| | # of Jobs above county average wage | 9 |

Of the 32 BiG client companies who responded to the survey, 16 of the companies also reported participation in other USTAR programs listed in this report: 14 companies also were clients of the SBIR/STTR Assistance Center, one received a Go-to-Market grant, three received more than 20 hours of training or mentoring from one of USTAR's Regional Outreach Centers, two were University of Utah licensees and one was a Utah State University licensee.

USTAR Funding Programs

Go-to-Market Program

USTAR's Go-to-Market Program (G2M) was discontinued in 2014. This program provided very small pre-seed grants (\$2,500 to \$10,000) to client companies through USTAR's Regional Outreach Centers.

| Impacts from G2M grantees in 2015 | | |
|-----------------------------------|---|--|
| Response Rate: | | 18% (19 of 106 grantees responding) |
| Follow-on Investment | Total | \$258,000 |
| | Commercial Lending | \$0 |
| | Private Investors | \$255,500 |
| | Strategic Partners | \$0 |
| | Institutionally Managed Venture Capital | \$0 |
| | Federal SBIR/STTR award | \$0 |
| | Other Federal grants or contracts | \$2,500 |
| | Other Utah Programs | \$0 |
| | Other sources | \$0 |
| Sales: | | \$100,000 |
| Jobs: | | |
| | # Full-time (Avg. Salary) | 1(\$120,000) |
| | # Part-time (Avg. Salary) | 4(\$23,400) |
| | # of Jobs above county average wage | 1 |

Of the 19 G2M grantees who responded to the survey, four of the companies also reported participation in other USTAR programs listed in this report: one was a tenant at the Bioinnovations Gateway, one was a Utah State University licensee, and two companies had received more than 20 hours of training or mentoring from one of USTAR's Regional Outreach Centers.

USTAR Regional Outreach Centers

USTAR's Regional Outreach Program is community-based and focuses on entrepreneurship and technology commercialization by small companies and entrepreneurs throughout the state. USTAR currently operates three regional centers, though SRI surveyed the clients of four centers (USTAR North ceased operations in 2016):

- USTAR Central at Orem
- USTAR East at Vernal/Salt Lake City
- USTAR South at St. George/Cedar City
- USTAR North at Farmington (closed in FY16)

These regional outreach centers offer a range of business and technical assistance to Utah companies. These services include:

- Entrepreneurship training, including accelerator programs such as Lean Launchpad, Nail It Then Scale It, NEXT, etc.
- Business coaching or mentoring.
- Connections to investors, technical experts, or other professional contacts.
- Connections to student interns.
- Access to equipment, laboratory, clean room, office or meeting space, etc.
- Prototyping or design assistance.
- Assistance protecting intellectual property

Companies that received 20 or more hours of training or mentoring

| Impacts from companies that received 20 or more hours of assistance in 2015 | | |
|---|---|---|
| Response Rate: | | 73.7% (28 out of 38 clients reporting) |
| Follow-on Investment | Total | \$1,915,000 |
| | Commercial Lending | \$50,000 |
| | Private Investors | \$130,000 |
| | Strategic Partners | \$0 |
| | Institutionally Managed Venture Capital | \$0 |
| | Federal SBIR/STTR award | \$188,000 |
| | Other Federal grants or contracts | \$1,450,000 |
| | Other Utah Programs | \$97,000 |
| | Other sources | \$0 |
| Sales: | | \$78,000 |
| Jobs: | | |
| | # Full-time (Avg. Salary) | 12 (\$72,121) |
| | # Part-time (Avg. Salary) | 15 (\$65,600) |
| | # of Jobs above county average wage | 19 |
| | | |

Of the 28 companies receiving 20 or more hours of assistance who responded to the survey, 11 of the companies also reported participation in other USTAR programs listed in this report: four received grant assistance from the SBIR/STTR Assistance Center, three were tenants at the Bioinnovations Gateway, and two received Go-to-Market grants.

Companies that received other, non-financial USTAR assistance

| Impacts from companies that received other, non-financial assistance | | |
|--|---|--|
| Response Rate: | | 17.3% (34 out of 196 clients reporting) |
| Follow-on Investment | Total | \$645,000 |
| | Commercial Lending | \$0 |
| | Private Investors | \$535,000 |
| | Strategic Partners | \$0 |
| | Institutionally Managed Venture Capital | \$0 |
| | Federal SBIR/STTR award | \$0 |
| | Other Federal grants or contracts | \$110,000 |
| | Other Utah Programs | \$0 |
| | Other sources | \$0 |
| Sales: | | \$20,000 |
| Jobs: | | |
| | # Full-time (Avg. Salary) | 12 (\$83,333) |
| | # Part-time (Avg. Salary) | 1 (wage not reported) |
| | # of Jobs above county average wage | 11 |
| | | |

Methodology

The survey instrument used to collect the data found in this report is based on a survey SRI developed, in collaboration with USTAR, in 2015 to collect data from USTAR client companies. The 2015 survey was adjusted to aligned to USTAR's new statutory reporting requirements, which were adopted in 2016. The survey instrument seeks to collect data on follow-on investment, employment, wages, and revenue impacts in calendar year 2015. It also sought to collect information on:

- Characteristics of client companies, including their total employment and annual revenue.
- When and what type of assistance they received from USTAR.

The survey used well-tested methods to maximize response rates: the instrument was short (10 questions), with clear instructions and wording of the questions, and easily accessible online via an email invitation. A PDF of the online survey instrument is included as an Appendix to this report.

SRI received contact information from USTAR for companies that licensed a technology from a USTAR-supported faculty member at the University of Utah or Utah State University, received assistance from the USTAR SBIR/STTR Assistance Center (SSAC) in preparing grant applications, were tenants of USTAR's Bio-innovations Gateway incubator (BiG), received funding through the Go-to-Market program (G2M), received mentoring, training or business services from one of USTAR's Regional Outreach Centers, or received other, non-financial assistance from USTAR. In total, SRI surveyed 425 companies.

The survey was launched on July 19, 2016, via personalized email invitations to the listed point of contact for each company. Follow-up emails to companies that had not yet responded were sent on July 20, 2016, and again on July 27, 2016. SRI conducted follow-up phone calls with client companies to further boost the response rate of client companies that:

- Were tenant companies in the BiG incubator, and/or
- Had licensed a technology from a USTAR-supported faculty member at the University of Utah or Utah State University.

Data aggregation methodology

In our evaluation work, SRI strives to produce valid, conservative assessments of economic impact. Achieving credible impact estimates from a survey can be challenging given the likelihood of survey response bias. For example, those companies that perceive they benefitted more from their participation in the program may be more likely to take the time to respond to the survey, or it may be that more successful companies are less likely to respond because they are busier. Given the limited information available at the outset of the evaluation, it is not possible to adequately control for these biases using company or program characteristics. Therefore, rather than surveying a random sample of USTAR clients and seeking to extrapolate an average firm performance to the entire client population, SRI decided, in consultation with USTAR, to survey the entire USTAR client company population, achieve

as high a response rate as possible, and directly aggregate and report these findings for the responding companies. No extrapolation or imputation was used for companies that did not respond or for item non-response (such as companies that did not report revenue).

Data estimation methodologies for selected metrics

Two of the metrics found in this report—jobs created above the average county wage and tax revenue—required additional information and estimation by SRI beyond the data collected directly via the survey.

Jobs created above the average county wage: SRI’s survey instrument (Question 8c) asks respondents to indicate the salaries of both full-time and part-time employees for new jobs created in 2015. SRI used the Bureau of Labor Statistics average annual wage data for Utah’s 29 counties from 2015 and compared those to the average annual wages reported for new jobs in the survey by USTAR client companies.

Tax Revenues: USTAR client companies reported the following sources of corporate income to which Utah taxes would apply:

- Follow-on investment that was then used to pay employee salaries and other product development and business expenses, and
- Sales of commercialized products or services, i.e., corporate revenue.

Many states employ IMPLAN or REMI software and data to estimate tax revenue impact. Such software packages employ a standard methodology and pull in both county and state-level tax rate data. SRI used IMPLAN’s data and software platform to estimate tax revenues based on reported wage income and corporate revenues of USTAR client companies who responded to the survey. IMPLAN estimates state and local taxes on corporate income, wage income, property and sales, as well as other miscellaneous taxes.

The inputs for modeling tax revenue came directly from the survey of USTAR client companies. SRI used the 2015 impacts for revenues and wages as inputs, as those would be the direct impacts that would generate tax revenue for the State of Utah. SRI modeled tax revenue as follows:

- In IMPLAN, SRI modeled an “Industry Change”³ in 2015.
- As inputs to the model, used revenues and wages reported by client companies.
 - SRI calculated annual revenues using the revenue range categories reported by each company. USTAR used the lower end of the range category as the annual revenue for each company that reported revenue. For example, if a company reported their company generated \$100,000 - \$500,000 in revenue in 2015, that company’s revenue was considered \$100,000 for the tax calculation. Pre-revenue companies were recorded

³ Industry Change is an economic scenario, one of several different types of scenarios that can be modeled in IMPLAN

as \$0 in annual revenue. Companies that did not respond to the revenue question were recorded as \$0 in annual revenue. Using these calculations, SRI found that client companies from USTAR's private sector economic development programs generated approximately \$61.3 million in 2015 revenue and companies that licensed a technology developed by a USTAR-supported faculty from U of U or USU generated \$13.1 million in 2015 revenue.

- For the wages, SRI used the \$5.92 million in 2015 wage impacts from USTAR's private sector economic development programs and \$460,000 in 2015 wage impacts from companies that licensed a technology developed by a USTAR-supported faculty from U of U or USU.
- All inputs were entered using the IMPLAN industry code 456 (Scientific research and development services)⁴.

This report did not attempt to model total impacts (which includes indirect and induced impacts), only reporting direct impacts attributed to USTAR activities by current and former client companies.

⁴ IMPLAN has created its own industry codes, each with its own proprietary set of multipliers, rather than making use of other standardized industry codes, such as NAICS or SIC codes.

Appendix I: Survey Instrument

USTAR Regional Outreach Client Company Survey

Introduction

You have received this survey because you or your company have received assistance or support from USTAR in the last few years. SRI International, a non-profit research center, is conducting this survey as part of an independent study to evaluate the impacts of USTAR activities.

Companies that receive USTAR assistance or license USTAR-supported technologies are asked to respond to meet USTAR's legislative reporting requirements.

- This survey is short, with only 10 questions, and should take 5-10 minutes of your time to complete.

- Your responses to this survey are confidential.

- Your survey is only accessible through the unique web address that you were given.

- Survey results will be analyzed and reported only in the aggregate: for example, "On average, USTAR client companies reported \$XX of follow-on investment."

No personal information will be collected and no one will be identified in any published reports. By continuing with this survey you are giving your consent to participate.

Thank you!

About Your Company and Assistance Received

*** 1. Please select the USTAR Regional Outreach Centers with which you have interacted with and/or received services from.**

Check any that apply

- USTAR North (Farmington, Weber State University)
- USTAR East/Energy (EGI at U of U and BEERC & CEIC at USU)
- USTAR South (St. George)
- USTAR Central (Orem)
- SBIR-STTR Assistance Center (Sandy)
- BioInnovations Gateway (South Salt Lake)
- None of the above

*** 2. Did your company incorporate (i.e., receive its Employer Identification Number) before receiving assistance from USTAR?**

Yes No

3. Does your company license technology from any of the following?

Check any that apply

- Another company
- University
- Government
- None

*** 4. In what year(s) did your company receive services from USTAR?**

Check any that apply

- 2016
- 2015
- 2014
- 2013
- 2012
- 2011
- 2010
- 2009
- 2008
- Never received assistance from USTAR

5. What type of assistance did you receive from USTAR?

Investment Capital Assistance (check any that apply):

- Technology Acceleration Program (TAP) grant
- Industrial Partnerships Program grant
- Go-To-Market grant (XXXX-2015)
- GOED Technology Commercialization Innovation Program grant
- Technology Commercialization Grants (2009-2011 only)
- Assistance identifying a potential funding source
- Assistance preparing an SBIR/STTR proposal
- Investor pitch preparation
- Other funding sources

Business Assistance (check any that apply):

- Entrepreneurship training (e.g., Lean Launchpad, Nail It then Scale It, NEXT)
- Business coaching or mentoring
- Network of professional contacts

- Connection to student interns (e.g., high school, college, etc.)
- Mentoring or assistance from other client companies

Technical Assistance (check any that apply):

- Access to Utah Nanofab at University of Utah
- Access to equipment, laboratory, clean room, office or meeting space, etc.
- Prototyping or design assistance
- Network of professional contacts (e.g., subject matter experts)
- Assistance protecting intellectual property

Other (please specify)

Financing

*** 6. Do you think USTAR services (including financial assistance) contributed to your company’s ability to obtain non-USTAR funding in 2015?**

- Yes No

6a. Please indicate the amount of non-USTAR funding received by your company in 2015 (example: \$10,000).

| | |
|---|--|
| Commercial lending institutions – Amount (\$): | <input style="width: 95%;" type="text"/> |
| Private investors (e.g., angel investors) – Amount (\$): | <input style="width: 95%;" type="text"/> |
| Strategic partners (other companies, etc.) – Amount (\$): | <input style="width: 95%;" type="text"/> |
| Institutionally managed venture capital - Amount (\$): | <input style="width: 95%;" type="text"/> |
| Federal SBIR/STTR award – Amount (\$): | <input style="width: 95%;" type="text"/> |
| Other Federal grants or contracts – Amount (\$): | <input style="width: 95%;" type="text"/> |
| Other Utah programs – Amount (\$): | <input style="width: 95%;" type="text"/> |
| Other (please describe) – Amount (\$): | <input style="width: 95%;" type="text"/> |

Innovation

*** 7. Do you think USTAR services (including financial assistance) contributed to your company’s ability to introduce any new products or services into the marketplace in 2015?**

Yes No

7b. What were your total sales from these products or services in 2015? (example: \$50,000)

Employment

8a. Please provide the current number of employees at your company.

Only numbers may be entered in these fields.

| | |
|--|----------------------|
| Full-time employees | <input type="text"/> |
| Part-time employees, including consultants | <input type="text"/> |
| Interns | <input type="text"/> |

8b. Do you think USTAR services (including financial assistance) contributed to your company’s ability to hire employees in 2015? If yes, how many?

Only numbers may be entered in these fields.

| | |
|--|----------------------|
| Full-time employees | <input type="text"/> |
| Part-time employees, including consultants | <input type="text"/> |

8c. What is the average annual salary of the employees identified in 8b?

Only numbers may be entered in these fields.

| | |
|---|----------------------|
| Full-time employees - Average Salary (\$): | <input type="text"/> |
| Part-time employees, including consultants - Average Salary (\$): | <input type="text"/> |

Revenue

9. Please provide total annual revenue for your company. Choose one of the following answers

Comments

10. Please provide any specific comments or suggestions you have regarding any aspect of your interaction with USTAR and USTAR's Regional Outreach Centers, including any changes USTAR could make to better meet your needs in the future.



Load unfinished survey

Submit

Exit and clear survey

Resume later