



USTAR

**MEASURING THE IMPACT OF  
USTAR'S TECHNOLOGY OUTREACH  
INNOVATION PROGRAM:**  
BASELINE IMPACT AND METHODOLOGY

AUGUST 14, 2015

**SRI International**





Dear Reader,

As the Chairman of the Utah Science Technology and Research Initiative (USTAR) Governing Authority (GA), I am pleased to present you with economic impact assessments from the USTAR Technology Outreach Innovation Program (TOIP), which, although lesser known than our funding of university-based research, is an important part of encouraging science and technology-based innovation throughout Utah.

This economic impact assessment was conducted using industry best practices by SRI International, a non-profit research and development organization that provides analysis and policy recommendations to States, federal agencies and foreign governments on how to optimize and measure the success of their technology programs. SRI developed a survey instrument that aligned to the statutorily required metrics for USTAR. A detailed methodology is included in the report.

These results show a measurable economic impact that we expect to continue to grow as the early-stage companies who work with USTAR prove their technology and enter the market. As these pre-revenue companies enter the market they will begin generating sales and revenue, increasing their economic impact over time.

Greg Bell,  
USTAR Governing Authority Chairman



# Measuring the Impact of USTAR's Technology Outreach Innovation Program: Baseline Impact and Methodology

August 14, 2015

## Summary

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This report presents SRI's baseline economic impact findings from 94 responses to a survey of 376 USTAR Technology Outreach and Innovation Program (TOIP) client companies. In 2015, these early-stage startup companies reported the following impacts to which USTAR assistance contributed, including:

- \$26.4 million of total cumulative follow-on investment
- \$5.76 million in 2015 sales from a recently commercialized product or service
- 51 full-time employees and 63 part-time employees
- 14 "high-quality" jobs
- \$4.99 million in 2015 wages
- \$549,744 in 2015 tax revenue

USTAR's TOIP seeks to help early-stage companies sharpen their value propositions and de-risk their technologies in order to attract follow-on investment and get their products and services into the marketplace. In the long term, the expectation is that these companies will generate revenue and create jobs as they increase sales of their commercialized products and services.

The following points provide important context for reviewing SRI's findings:

- The impact findings are conservative, representing the direct impact reported by 25% of client companies (94 companies) that responded to SRI's survey. SRI did not extrapolate these responses to the overall program and to the entire population of client companies (376 TOIP client companies).
- The findings represent very short-term impact, since the vast majority of respondents (nearly 90%) had received assistance in the past three years. It usually takes 10 to 15 years before technology companies commercialize products and generate significant sales from them. In the one or two years since receiving USTAR assistance, 52% of client companies reported having commercialized a product or service, and 40% of companies reported sales on these recently introduced products and services.
- Given that follow-on investment is the leading indicator of short-term impact, the \$26.4 million of follow-on investment that USTAR client companies reported indicates positive program impact and a positive return on investment for the approximately \$6 million of State of Utah investment in USTAR's TOIP over the past three years.

## Objective

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This report presents SRI's short-term economic impact findings for USTAR's TOIP program, in compliance with USTAR statute 63M-2-40. These findings are based on the survey responses of 94 USTAR client companies out of a total of 376 client companies in the USTAR database.

Distinguished from USTAR's more visible activity of financing university-based research, USTAR has a very active and successful technology outreach program (TOIP), which is more community-based and focuses on entrepreneurship and technology commercialization by small companies and entrepreneurs throughout the state. The centers are regionally focused and co-located with higher educational institutions in the following locations:

- TOIP North at Farmington
- TOIP Central at Orem
- TOIP East at Vernal / Salt Lake City
- TOIP South at St. George / Cedar City
- SBIR/STTR Center at Salt Lake City
- BioInnovations Gateway (BiG) collaboration with Granite Technical Institute / Salt Lake City

The USTAR TOIP program is funded at approximately \$2 million per year. This report presents the impacts that client companies have reported to date, the specific types of services and funding received by client companies, and the characteristics of these companies based on responses to SRI's online survey conducted in July and August 2015. The methodology section describes SRI's approach to assessing the impact of the program, developing the survey, and aggregating results. It provides benchmarks from states with similar entrepreneurship support and financing programs to help policymakers interpret results and calibrate their expectations.

## Impacts

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USTAR's TOIP focuses on helping Utah entrepreneurs and very early-stage technology companies de-risk their technologies and sharpen their value propositions in order to attract follow-on investment and get their products and services into the marketplace. In the short term (first five years after receiving USTAR assistance), follow-on investment and commercialization of products and services are lead indicators of program effectiveness. In the longer term (10 to 15 years), the expectation is that these companies will generate revenue and create jobs through commercial-scale sales of these commercialized products and services. SRI assessed the following impacts of USTAR's TOIP:

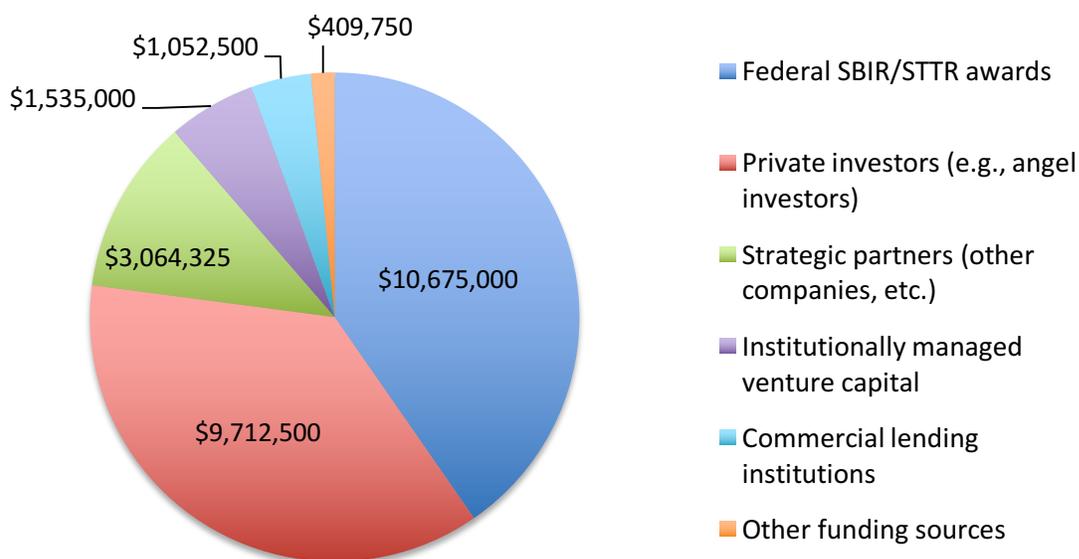
- **Follow-on investment:** This includes total cumulative private investment in USTAR client companies by angel investors, other companies, venture capital firms, and banks, as well as awards of Federal Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) grants and other federal funding for technology development and commercialization activities.
- **Product sales:** This includes the 2015 sales of new products and services introduced into the marketplace with support from USTAR.
- **Jobs:** This is separated into the number of full-time and part-time employees (including consultants) that client companies employed in 2015.

- **Tax revenues:** This includes state and local taxes on corporate income, wage income, property, and sales in 2015.

## Follow-on investment

- 40% of survey respondents reported that USTAR assistance (including financial assistance) contributed to their ability to raise follow-on investment totaling \$26.4 million, as shown in the figure below:

**Figure 1. Amount of Follow-On Investment in USTAR Client Companies, by Source**



## Product sales

- 57% of companies that responded to the annual revenue question indicated that their companies are pre-revenue, meaning they do not yet have sales from products or services.<sup>1</sup>
- 52% of respondents reported USTAR contributed to their commercializing a new product or service (i.e., introducing a new product or service to the marketplace).
- 40% of respondents reported sales from these new USTAR-supported products or services; these sales totaled \$5.76M in 2015.

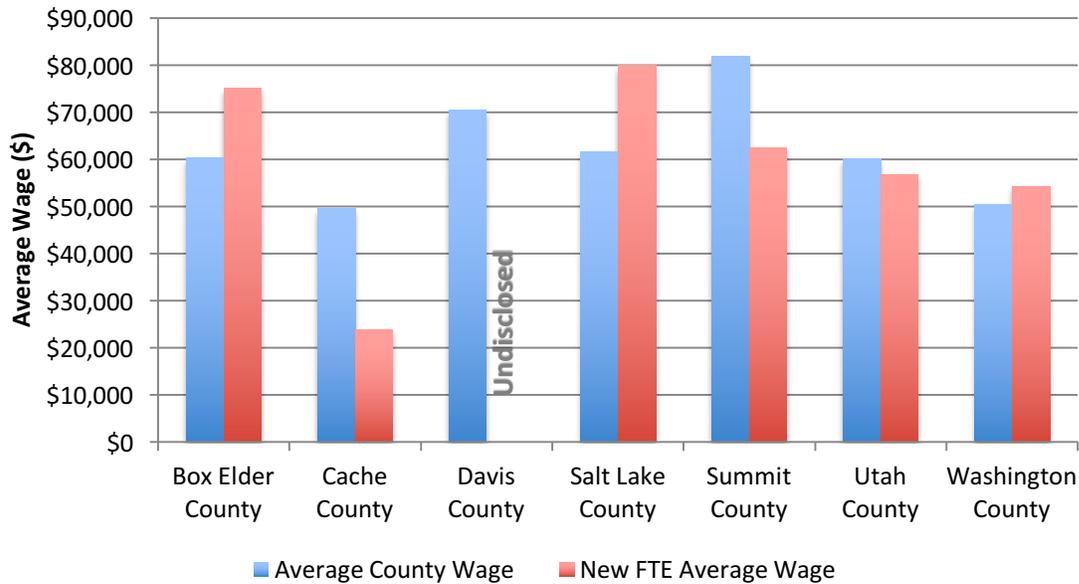
## Jobs

- 35% of respondents indicated that USTAR contributed to their company's ability to hire employees. These companies created:
  - 51 total full-time jobs with an average salary of \$67,149.
  - 63 total part-time employees with an average salary of \$32,896.

<sup>1</sup> Forty-seven of the 83 USTAR client companies (57%) that answered the revenue question reported being pre-revenue. Eleven companies that responded to the survey did not answer the question on annual revenue.

- Total annual wages for these jobs were \$4.99 million in 2015.
- 32 of these jobs exceeded the average county wage in 2015. (See figure below for a county-level comparison between the average wages of USTAR-supported jobs and average wage for the county overall.
- 14 of the 51 full-time jobs meet the “high-quality” jobs criteria. Another 10 full-time jobs are within \$1,500 of meeting the “high-quality” jobs criteria.<sup>2</sup> (See table below.)

**Figure 2. Average Wage for USTAR-Supported Full-Time Jobs vs. Average County Wage**



**Table 1. Number of Full-Time and Part-Time Jobs Attributed to USTAR, Average Wage of These Jobs, and Comparison to County Average Wage**

County	Average County Wage	High Quality Wage	# of Full-Time Jobs Attributed to USTAR (Average Wage)	# of Part-Time Jobs Attributed to USTAR (Average Wage)	# of “High Quality” Jobs
Box Elder	\$60,372	\$75,465	1 (\$75,000)	4 (\$6,000)	0
Cache	\$49,556	\$61,945	1 (\$24,000)	0	0
Davis	\$70,456	\$88,070	1 (undisclosed)	0	0
Salt Lake	\$61,716	\$77,145	22 (\$79,863)	41 (\$35,978)	10
Summit	\$81,907	\$102,384	2 (\$62,500)	6 (\$27,000)	0
Utah	\$60,069	\$75,086	17 (\$56,785)	10 (\$35,625)	4
Washington	\$50,378	\$62,972	7 (\$54,285)	2 (\$20,000)	0
<b>Total</b>	-	-	<b>51 (\$67,149)</b>	<b>63 (\$32,896)</b>	<b>14</b>

<sup>2</sup> USTAR’s statute defines “high-quality” jobs as those where the employee is expected to be employed for at least one year and earns at least 125% of the prevailing wage of the county where the employee works.

## Tax revenue

- Survey respondents generated \$549,744 in annual tax revenue for the State of Utah. This tax revenue is generated from \$5.76 million in annual revenues from USTAR-supported products or services introduced to the marketplace and from \$4.99 million in annual wages from USTAR-supported jobs.<sup>3</sup>

## USTAR services

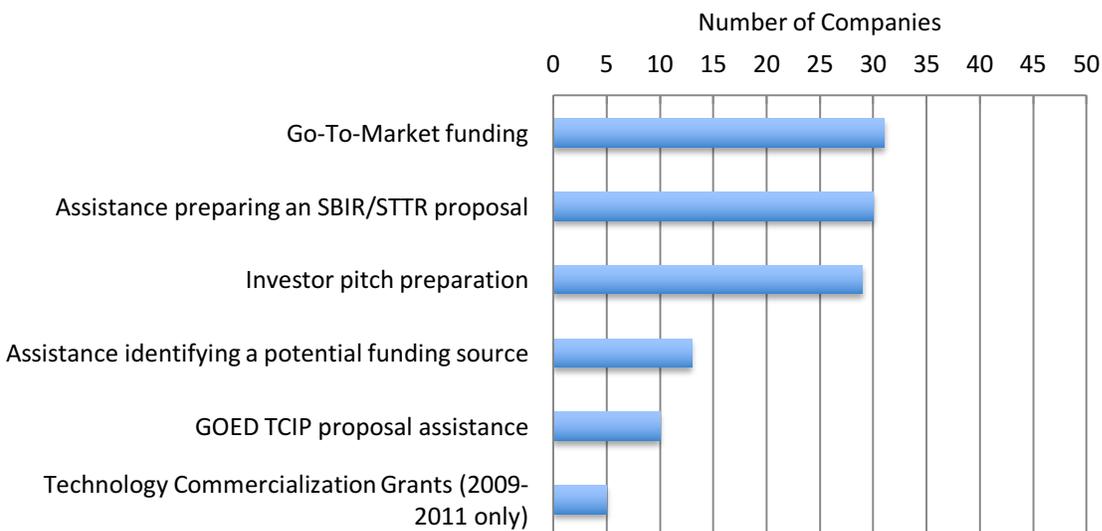
Utah client companies reported a range of assistance provided to them by USTAR: connecting them to investment capital; providing business mentoring; leveraging business and technical contacts; and providing access to equipment, lab and clean room space, office and meeting space, etc.

In general, USTAR TOIP services fall into three categories: financial assistance, business assistance, and technical assistance. The figures below rank each type of service by the number of respondents that indicated they had received this USTAR service. Companies could select any or none of these services.

### Financial assistance

- Client company respondents reported that USTAR's Go-to-Market funding, SBIR/STTR proposal assistance, and investor pitch preparation were the most common forms of financial assistance received.

**Figure 3. Types of USTAR Financial Assistance Received by Client Companies**



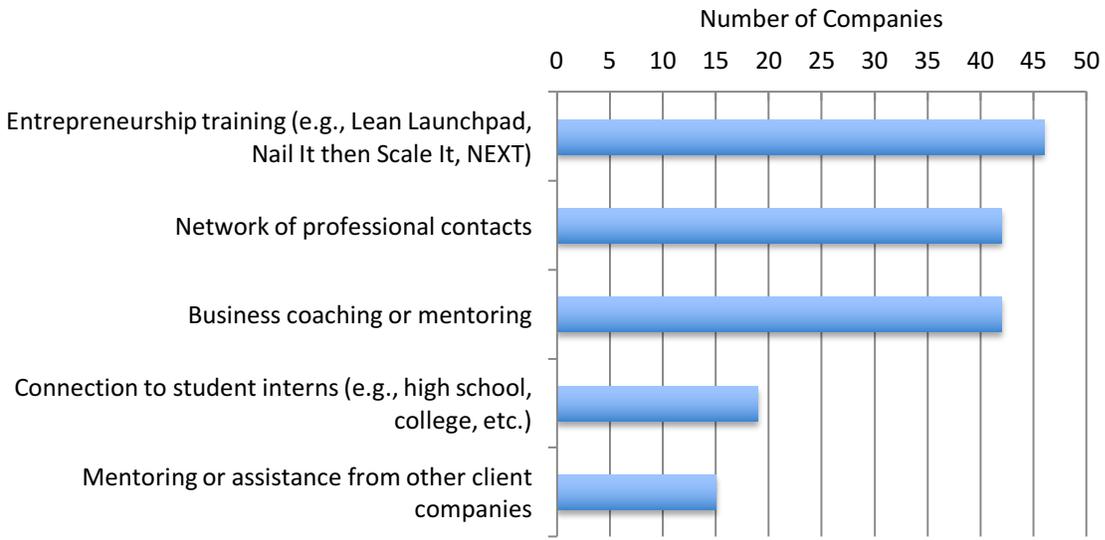
Note: Companies could select none, one, or all types of assistance received.

<sup>3</sup> Tax revenues were calculated using the IMPLAN data and software platform, which estimates economic impacts using input-output analysis and location- and industry-specific economic statistics.

## Business assistance

- Client company respondents reported that entrepreneurship training, access to USTAR's professional network, and business coaching were the most common forms of business assistance received.

Figure 4. Types of USTAR Business Assistance Received by Client Companies

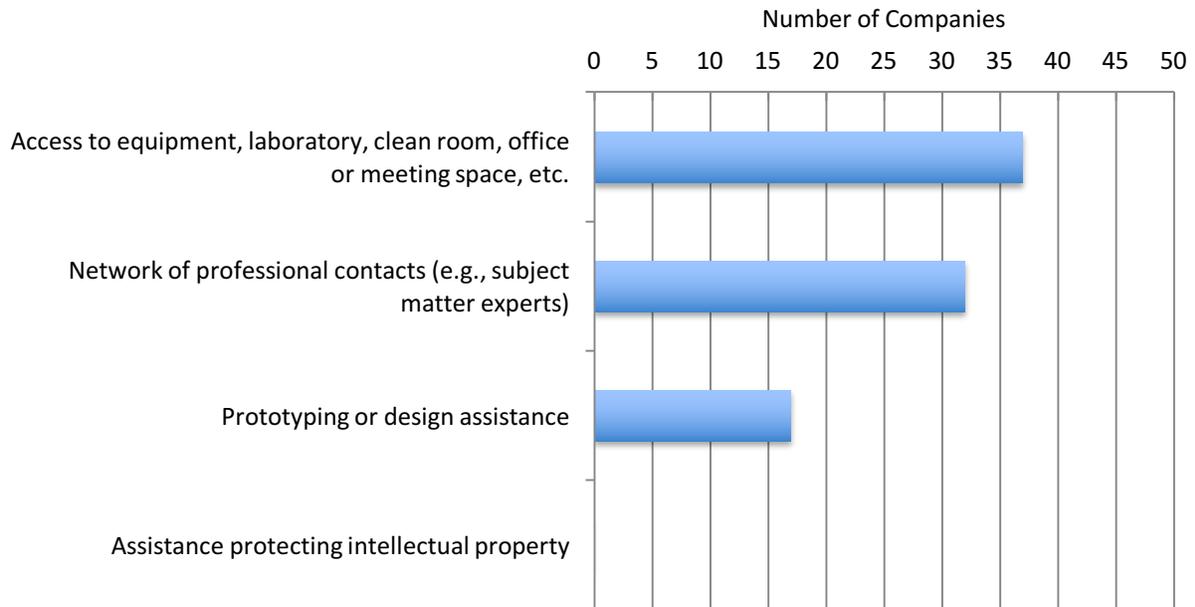


Note: Companies could select none, one, or all types of assistance received.

## Technical assistance

- Client company respondents reported that access to equipment, laboratories, clean room, etc.; connection to technical subject matter experts through USTAR's professional networks; and prototyping or design assistance were the most common forms of technical assistance received.

Figure 5. Types of USTAR Technical Assistance Received by Client Companies

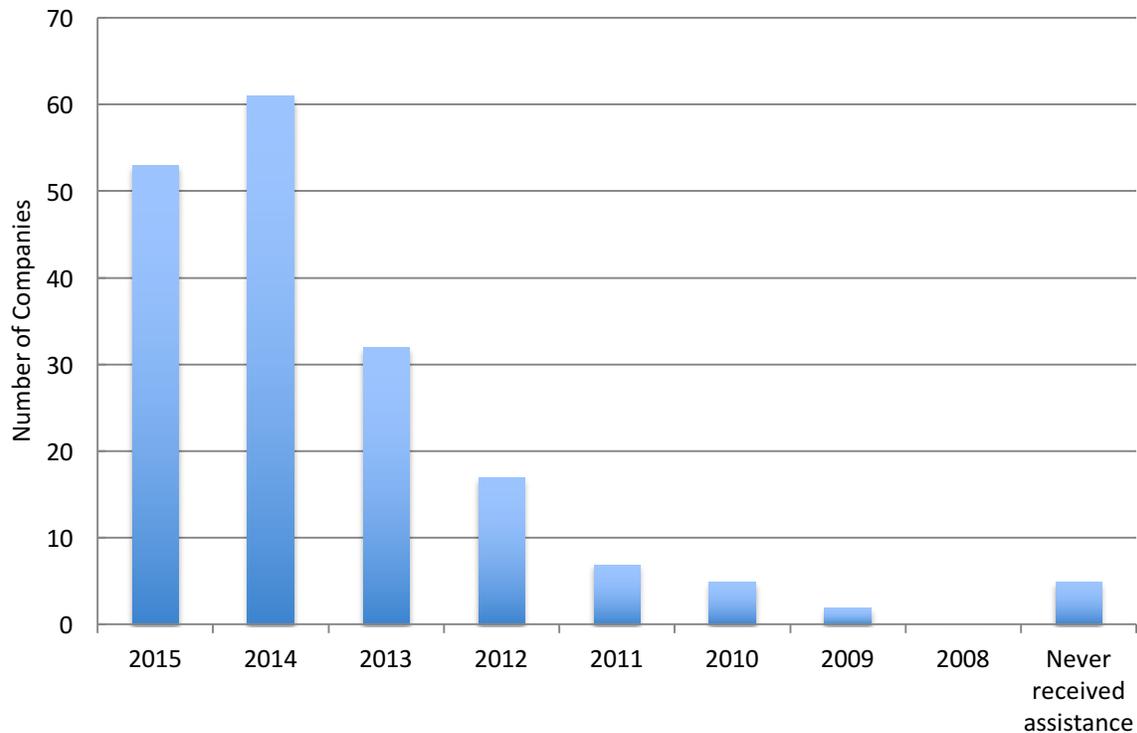


Note: Companies could select none, one, or all types of assistance received.

## Year USTAR assistance received

- 90% of client company respondents received USTAR assistance in the past three years (2013 to 2015).
- USTAR only has complete records of client companies for FY2015 (July 1, 2014 to June 30, 2015), with partial records for FY2014 and FY2013. Clients assisted prior to FY2013 were not well represented in the survey population.

**Figure 6. Number of USTAR Client Companies by Year of Assistance**

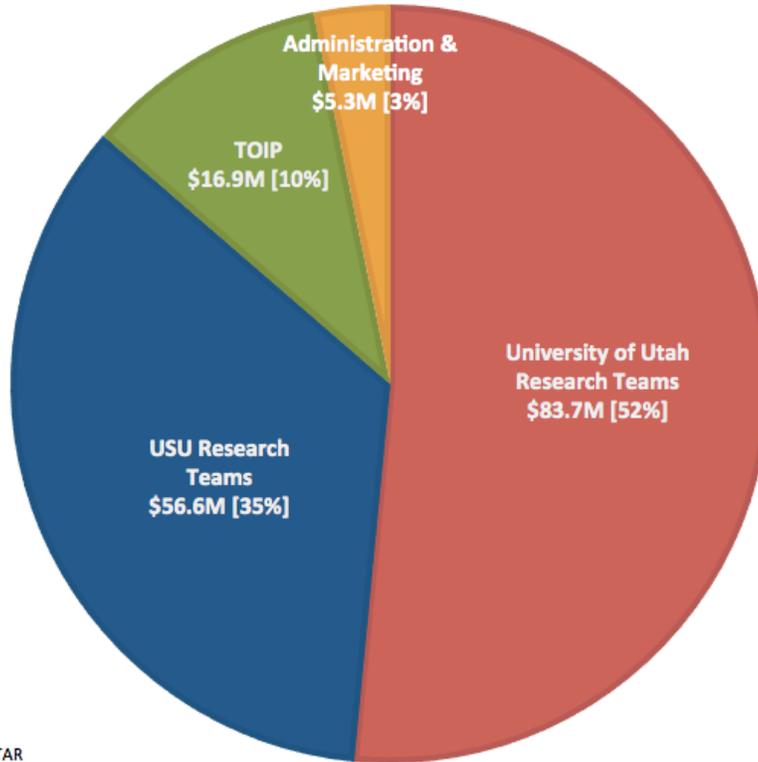


Note: Companies could select more than one year in which they received assistance.

## Total investment

- USTAR has invested \$16.9 million in the TOIP program since 2008, or 10% of total USTAR funding from 2008-2015.
- The TOIP program is funded at approximately \$2 million per year.
- Given that nearly 90% of survey respondents received USTAR assistance in the past three years, this report presents the impact of approximately \$6 million of investment in the program.

Figure 7. Total Amount of Investment in USTAR by Program, 2008-2015

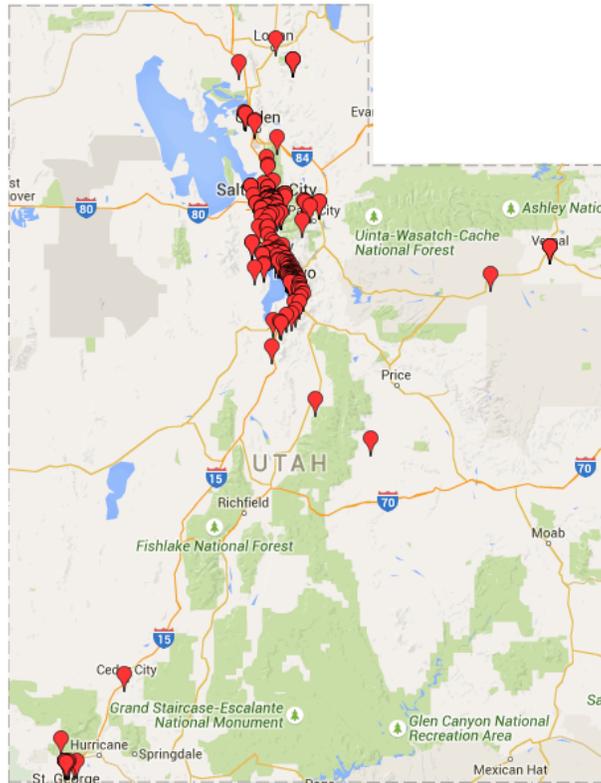


Source: USTAR

## Who we surveyed

- SRI surveyed 376 client companies in the USTAR TOIP database.
- USTAR client companies were located across the state with high concentrations in the following counties (see figure below): Utah County, Salt Lake County, Washington County, Davis County, Summit County, Weber County, Box Elder County, Cache County, Emery County and Iron County.
- 94 client companies responded to the survey for a 25% response rate.

Figure 8. Location of USTAR TOIP Client Companies



## Year incorporated

- 80% of survey respondents had incorporated their companies (defined as having received an Employer Identification Number/Tax Identification Number) prior to receiving USTAR services.
- Of the companies that incorporated after receiving USTAR assistance 50% (18 companies) said USTAR assistance was critical to establishing the company.

## Intellectual property

- Nearly three-quarters of respondents reported that their intellectual property (IP) was developed internally, while the remaining quarter had licensed IP from universities, other companies, or a government lab. A few companies had IP from more than one source.
  - 73% of client companies had developed their IP internally.
  - 18% had licensed IP from a university.
  - 11% had licensed IP from a company.
  - 1% had licensed IP from the government.

# Methodology

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## Survey approach

In collaboration with USTAR and the USTAR TOIP directors, SRI developed a survey instrument to collect data from TOIP client companies. The survey was aligned to USTAR's statutory reporting requirements and sought to collect data on follow-on investment, employment, wages, and revenue. It also sought to collect information on:

- Characteristics of client companies, including where their intellectual property came from (e.g., internal or licensed from other companies, universities, or government labs, etc.).
- The types of assistance they received from USTAR's TOIP.
- Attribution—whether or not client companies believe USTAR's services (including financial assistance) contributed to the company's ability to attract follow-on investment, introduce new products or services, and hire employees.

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

Before survey launch, SRI pre-tested the survey with 8 client companies to gauge clarity, interpretation, and ease of response to the survey questions. SRI launched the online survey, using LimeSurvey (an online survey platform) in July 2015 via personalized email invitations to all 376 USTAR TOIP client companies in the USTAR database for whom contact information was available. USTAR does not have complete records for the cohort of client companies that received assistance each year prior to 2013, so these clients were not well represented in the survey population. Nearly 90% of survey respondents reported receiving assistance in or after 2013.

Follow-up emails were sent to those client companies that did not respond one week after the initial email invitation. SRI conducted follow-up phone calls with client companies to further boost the response rate of client companies that:

- Had received Go-to-Market Phase 1, 2, or 3 awards,
- Were tenant companies in the BiG incubator, and/or
- Had received SBIR/STTR assistance.

SRI's survey design addresses a key issue raised in the 2013 audit of the USTAR program regarding the reporting of TOIP program impacts: attribution.<sup>4</sup> Obviously, many factors contribute to the success or failure of startup companies: overall macroeconomic conditions; strength of the corporate leadership; identification of the correct market for the product or service being commercialized; professional networks to overcome technical, legal, marketing, sales, and logistics challenges; access to capital; and many other factors.

Consequently, it is impossible to dissect a company's revenues and employment and attribute the generation of each additional dollar sale or job to a single business factor. However, at the same time,

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<sup>4</sup> Office of the Legislative Auditor General. *Report to the Utah Legislature: A Performance Audit of the Utah Science Technology and Research Initiative (USTAR)*. October 2013.

many states legitimately want to know whether or not the entrepreneurs and companies receiving assistance and funding from state programs do, in fact, believe these programs helped them overcome some critical gap or hurdle.

Utah auditors questioned whether USTAR could claim the credit for all of a company's employees or for the follow-on funding that companies received:

- “We sampled the top ten job-generating companies reported by USTAR as of May 28, 2013 in order to validate the number of jobs created by USTAR's outreach regions. We found that 99 jobs, 49 percent of our sample, could not be validated because the jobs were not directly related to USTAR or they were associated with the research universities and also double counted.”<sup>5</sup>
- The SBIR/STTR Center did not record time spent with clients or fees assessed, making it difficult to determine the extent to which USTAR could take credit for the federal grants won.

Therefore, in developing the survey instrument for USTAR, SRI investigated how other states posed the attribution question in their client company surveys. We reviewed survey instruments from Ohio's Entrepreneurial Signature Program, Pennsylvania's Ben Franklin Technology Partners, and the Oklahoma Agency for Science and Technology's Small Business Research Assistance program.

Given that attribution is subjective, SRI posed the survey question for follow-on investment, sales from new products and services, and new jobs in the following way, in keeping with the practice of these other states:

- “Do you think USTAR services (including financial assistance) contributed to your company's ability to hire some or all of these employees? If yes, how many? [Full-time employees, part-time employees].”

The full survey instrument can be found in the Appendix of this document.

The audit also found that USTAR did not define “high-quality jobs” in its 2013 reporting. In this report, SRI uses the USTAR statutory definition of high-quality jobs, which is defined as jobs where the employee is “expected to be employed for at least one year and earns at least 125% of the prevailing wage of the county where the employee works.”

## 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, it is not possible to adequately control for these biases using company or program characteristics. Therefore, rather than survey a random sample of TOIP clients and seek 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, get as high a response rate as possible, and directly aggregate and report these findings.

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<sup>5</sup> Office of the Legislative Auditor General 2013, p. 18.

SRI achieved a 25% overall response rate to the client company survey. This is a relatively high response rate for surveys of private companies. Nationally, company response rates to voluntary surveys typically range from 5% to 20%.<sup>6</sup> SRI was able to achieve a 25% response rate with individual, targeted follow-up calls to client companies.

## Data estimation methodologies for selected metrics

Two of the metrics specified in the USTAR statute—average wage of the jobs created and tax revenue—required additional information and estimation by SRI beyond the data collected via the survey.

**Salaries of Jobs Created:** USTAR statute 63M-2-40 requires data to be collected on the “number of jobs where the employee is expected to be employed for at least one year and earns at least 125% of the prevailing wage of the county where the employee works.” SRI’s survey instrument (Question 8c) asks respondents to indicate the salaries of both full-time and part-time employees that were created as a result of USTAR TOIP assistance (including financial assistance). SRI used the Census Bureau’s average annual wage data for Utah’s 29 counties and adjusted these figures to 125% in order to estimate the number of “high quality jobs,” based on the average annual wage for the full-time jobs reported in the survey by USTAR client companies.

**Tax Revenues:** While 57% of TOIP client companies that responded to the revenue question indicated they were pre-revenue, some client companies reported the following alternative sources of corporate income for 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.<sup>7</sup>

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.

## Setting performance expectations

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USTAR’s TOIP centers provide a diverse set of assistance focused on entrepreneurship, technology commercialization, and growth of technology startups across the state. Such program activities typically generate revenue and jobs impacts that may seem underwhelming in the short term.

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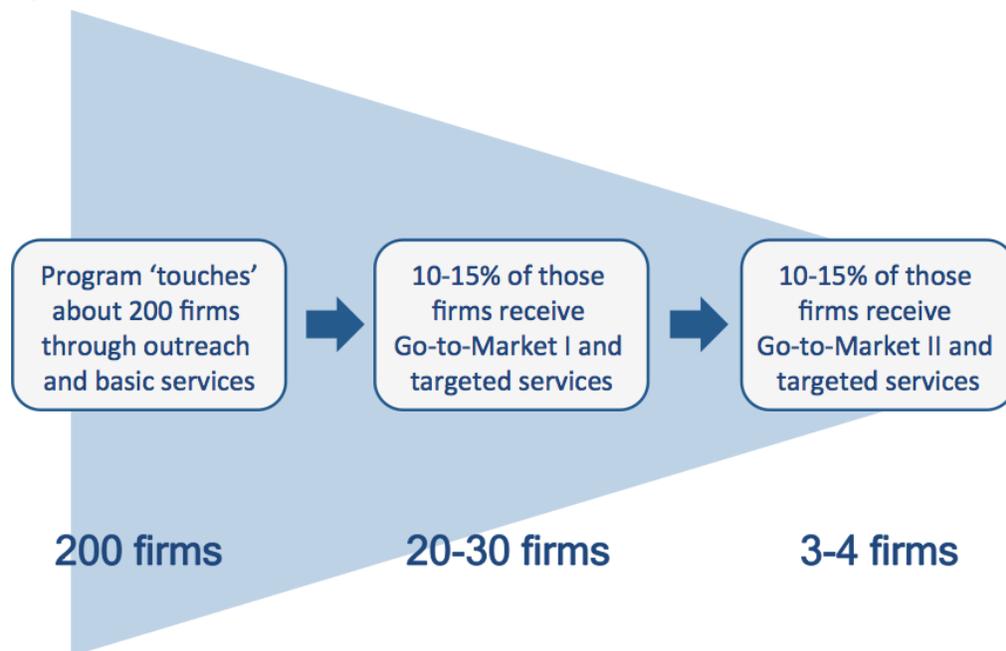
<sup>6</sup> Baruch, Yehuda, and Brooks C. Holtom. “Survey response rate levels and trends in organizational research.” *Human Relations* 61.8 (2008): 1139-1160.

Graham, John R., Campbell R. Harvey, and Manju Puri. “Managerial attitudes and corporate actions.” *Journal of Financial Economics* 109.1 (2013): 103-121.

<sup>7</sup> Other possible tax revenues include sales taxes paid on equipment purchased by TOIP-assisted companies, or property taxes paid by TOIP-assisted companies. However, the latter are difficult to ascertain.

Like similar commercialization and entrepreneurship support programs in other states, USTAR's TOIP casts a wide net in its outreach activities and in the provision of a basic level of assistance and training to entrepreneurs and companies across the state. Out of the many companies that may participate in the Nail-It-Then-Scale-It or Lean Launchpad training, a much smaller set of companies will be selected for Phase 1 Go-to-Market funding to conduct some preliminary market and technical validation work. This is an important first screening of companies based on the strength of their value proposition and managerial team. Following this first level of screening, a much smaller set of startup companies may go on to receive more intensive business coaching and mentoring and be selected for Phase 2 Go-to-Market funding to perform more technical de-risking and business development work. Upon meeting certain milestones, companies can apply for competitive Phase 3 Go-to-Market funding which provides a maximum of \$15,000. This type of funnel approach to screening startup companies and providing assistance is depicted in the figure below.

**Figure 10. Client Engagement Activities: Degree of Assistance Relative to Number of Companies in a Region**



In addition to looking at overall program strategy, there are some important takeaways from a high-level comparison of USTAR's TOIP with other longstanding, nationally recognized programs such as the Ohio Third Frontier, Pennsylvania's Ben Franklin Technology Partners, and Oklahoma's Agency for Science and Technology Small Business Research Assistance program.

1. Nationally, the vast majority of startup technology companies (90%) fail or never scale.<sup>8</sup> As a state program, casting a wide net but focusing limited state resources on a smaller set of high growth-potential companies is important.
2. It is the companies that receive the more intensive business mentoring and pre-seed investments that are likely to generate the long-term economic impacts state legislatures are

<sup>8</sup> Nine out of ten startups fail, and the number one reason they fail is because they are producing a product no one wants to buy. See Griffith, Erin (2014). "Why startups fail, according to their founders," Forbes, 25 September 2014. Accessed 3 August 2015.

looking for. The aforementioned programs in Ohio, Pennsylvania and Oklahoma all have strong entrepreneurs-in-residence and business networks that provide significant advice and value to client companies in addition to making more substantial pre-seed investments than the TOIP's current maximum of \$15,000. For example, the Ohio Third Frontier does not collect economic impact data on client companies that have not received a minimum of \$100,000 of pre-seed investment (can be multiple phases) by the state and private co-investors.

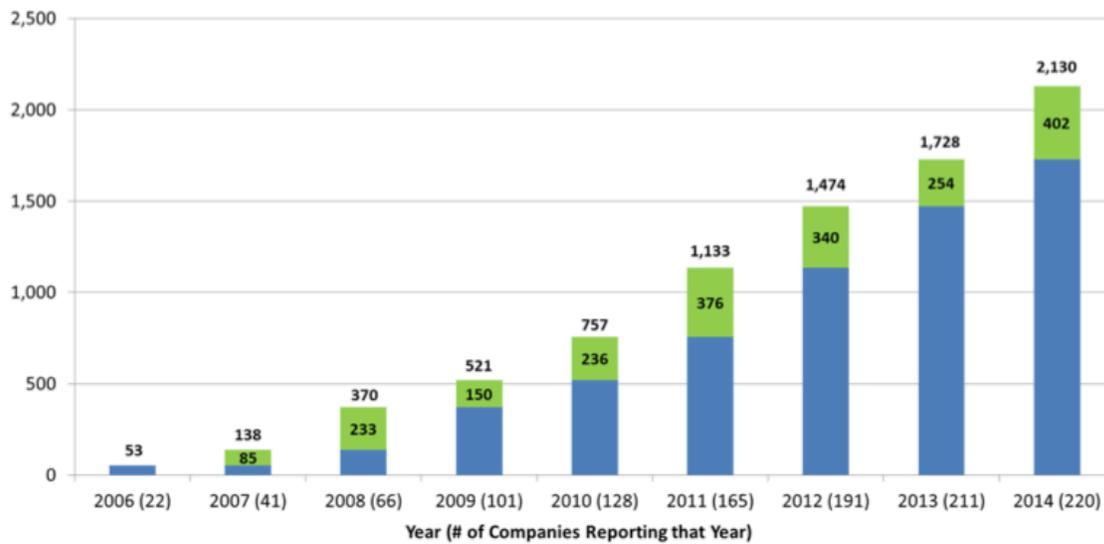
3. Other states recognize that technology commercialization and growth of startup companies takes time. They refer to a "J-curve" in seeing revenue and jobs impacts, and look to private follow-on investment in client companies as the primary leading indicator in the short term.

The figure below shows the job creation impacts of the Ohio Third Frontier's technology commercialization and entrepreneurship support program over a nine-year period from 2006 to 2014. New job creation in the first few years is quite modest, but grows significantly over time. However, even after nearly a decade, the program metrics show that 220 client companies have created 2,130 private sector jobs for an average of approximately 10 jobs per company. This includes older companies with more than 10 employees and younger startups that are still lean and pre-revenue.

Figure 9. Job Creation Impacts in the Ohio Third Frontier Program

## Total New Jobs Created (In companies that received at least \$100K in investment)

Green indicates net new job creation from the prior year



The creation of 2,100 jobs in a state economy five times the size of Utah's that has invested significantly more in its program than Utah has may seem disappointing. However, Ohio is not disappointed. For a technology company to compete and succeed in the current global economy, it may offshore

manufacturing or software coding, and it may use consultants for certain business functions instead of creating full-time positions. This keeps employment numbers low. However, this is a global economic trend that is not likely to change. Do technology commercialization and entrepreneurship support program benefit state economies in other ways beside direct job creation? Yes. These programs, if implemented well, are an important piece in a state’s larger economic development strategy. Small technology companies are recognized to be an important source of new business ideas and technologies for larger companies and entire industries. A vibrant innovation system that supports the creation and growth of startup companies is likely to be one that also attracts larger companies that can generate the large employment impacts that states are interested in.

**The value of state programs that support technology commercialization and startup activity is the critical role they play in connecting innovation system actors and increasing the number and quality of startup companies entering the innovation pipeline.**

### Recommended conceptual framework

In a separate project for USTAR, SRI has made recommendations for strengthening and expanding the TOIP program, along with other changes to the overall USTAR initiative. These recommendations are based on this impact analysis of the TOIP program, a broad set of interviews with USTAR stakeholders, regional economic data, and a review of best practices in other states. We have recommended a revised set of performance metrics linked to proposed program activities.

SRI has proposed the following conceptual framework for USTAR TOIP (see figure below) to show the connections between:

- Program activities,
- Short-term impacts (0 to 5 years), and
- Long-term impacts (5 to 15 years).

**Figure 11. Framework Linking USTAR TOIP Activity Metrics, Short-term Impact Metrics, and Long-term Impact Metrics**

Activities	Short-term Impacts	Long-term Impacts
Number of companies assisted <ul style="list-style-type: none"> <li>• By technology sector</li> <li>• By number of employees</li> </ul>	Follow-on investment in client companies <ul style="list-style-type: none"> <li>• Number of investments</li> <li>• Source of investment(s): federal, private, other</li> <li>• Dollar amount</li> </ul>	Jobs <ul style="list-style-type: none"> <li>• Average wage</li> </ul>
Type of services provided to companies		
Go to Market grants to companies <ul style="list-style-type: none"> <li>• Number of grants</li> <li>• Dollar amount of grants</li> </ul>	New products and services	
	Jobs (minimal)	
	Sales (minimal)	

**Program activity metrics:** Capture core types of services provided, investments of resources in providing business mentoring and number, stage and size of pre-seed investments in select client companies. Proposed metrics include the total number of entrepreneurs and companies assisted, the types and levels of services provided to client companies, and the number and size of Go-to-Market grants awarded.

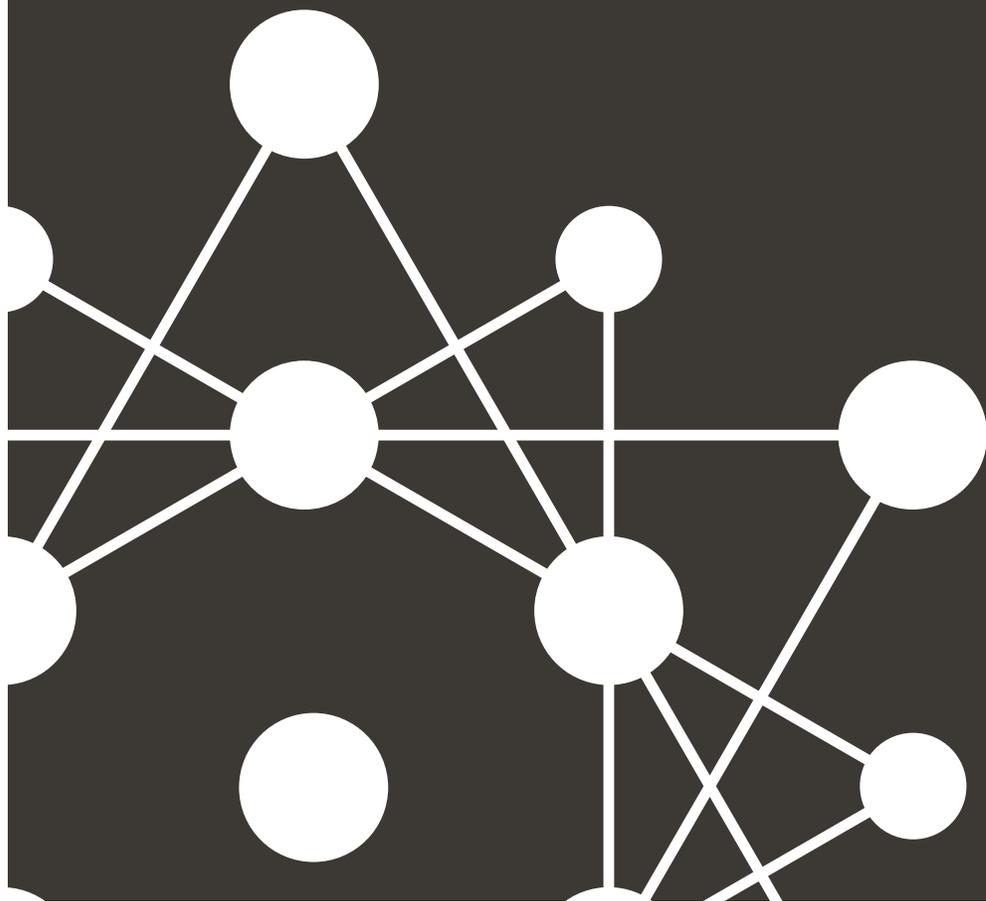
**Short-term impact metrics:** Focus on the expected impact during the first five years following the receipt of USTAR TOIP assistance. These outputs can be considered “leading” indicators on the road to the long-term desired impacts. Proposed metrics include follow-on investment (suggests the company has a product and value proposition that are compelling enough to get private sector investors to co-invest); introduction of new products and services to the marketplace (i.e., commercialization); and initial sales and jobs created. Note that depending on the technology sector, product sales and jobs may be minimal. Startups typically operate in a lean fashion until significant sales are achieved. In the absence of sales revenue, companies are only able to hire as outside follow-on investment becomes available.

**Long-term impact metrics:** Track the long-term (10 to 15 years) impacts of the USTAR TOIP program. Proposed metrics include the growth of client companies as measured by growth in product sales, revenues, and new jobs. However, it's important to remember that 95% of Utah's private companies employ fewer than 50 employees, and the average size of a small company in Utah is five employees. While small companies represent 95% of all companies in the state, these companies represent only 36% of total private sector employment.<sup>9</sup> From this macro-level perspective then, long-term “success” could be viewed as USTAR's TOIP playing an early investor role in companies that go on to commercialize products and scale to over 50 employees over 15 years, keeping in mind that some will fail since this is the nature of startups.

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<sup>9</sup> U.S. Bureau of Labor Statistics, Quarterly Census of Employment and Wages data in Figure 1 in “The Influence of Company Size on the Utah Economy,” Utah Insights, 2012, p.2, <https://jobs.utah.gov/wi/pubs/localinsights/winter2012/localinsightsstatewide.pdf> Accessed August 3, 2015.





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