USTAR Summary for EAC:

- **Program 1:** USTAR has proven that it can recruit “Star Faculty”. USTAR faculty are true catalysts, winning grants and enabling technology commercialization at a higher rate than traditional faculty.

- **Program 2:** USTAR buildings are acting as industry magnets and we expect industry-sponsored research to grow rapidly.

- **Program 3:**
  - USTAR TOIP teams are delivering impressive results and leading the innovation-based economic development initiatives for their respective regions.
  - Weber State University, Utah Valley University and Dixie State College have incorporated USTAR TOIP Directors into their leadership teams.

For information contact:
Ted McAleer, (801) 538-8709, tmcaleer@utah.gov
Utah Economic Development: Four Core Objectives

1. Strengthen and Grow Existing Utah Businesses, Both Urban and Rural
2. Increase Innovation, Entrepreneurship & Investment
3. Increase National and International Business
4. Prioritize Education to Develop the Workforce of the Future

Utah Science Technology and Research (USTAR)

USTAR Research Team Funding

Technology Outreach Program

USTAR Buildings & Infrastructure
### USTAR 6 Year Program 1 Results Overview

<table>
<thead>
<tr>
<th>Category</th>
<th>Adjusted FY12 Plan</th>
<th>June 30, 2012 (Actuals)</th>
<th>Results vs Plan</th>
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</thead>
<tbody>
<tr>
<td>State investment in USTAR research to date</td>
<td>$95.6 Million</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>Faculty hiring activity</td>
<td>19 teams*</td>
<td>21 teams 51 faculty hires</td>
<td></td>
</tr>
<tr>
<td>External research grants awarded through</td>
<td>$80.9 M*</td>
<td>$131MM ($86M UofU and $45M USU)</td>
<td></td>
</tr>
<tr>
<td>June 30, 2012</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>External research grants proposed for FY13 and beyond</td>
<td>No prospectus target</td>
<td>$89M at U of U $149M at USU</td>
<td></td>
</tr>
<tr>
<td>Disclosures to date</td>
<td>~160</td>
<td>330 (142 UofU 188 USU)</td>
<td></td>
</tr>
<tr>
<td>Provisional patents and patents filed to date</td>
<td>No prospectus target</td>
<td>202 (106 UofU 96 at USU)</td>
<td></td>
</tr>
<tr>
<td>Companies started in Utah to date</td>
<td>8*</td>
<td>9 (4 UofU and 5 USU) USU: 4 licensees 10+ active projects</td>
<td></td>
</tr>
</tbody>
</table>

* Based on 61% of Prospectus ($95.6 MM actual vs. $157.7 MM in 2005 Prospectus) (Note: of the $95.6MM, $68.6MM is State and $27MM is ARRA)

### USTAR Projects are relevant: Aligned w Key Utah issues

- **AirQuality:** STORM (Sensors), WAVE (Electric bus with UTA)

- **Water Management:** EPSCoR $20M grant (USHE and Industry participants), Logan Lagoon Project, Metallosensors

- **Energy:** Occutel (energy efficiency), CO2 Sequestration, Clean Coke Project in Price, Point Spectrum (Solar efficiency)

- **Education:** Experiential learning at regional incubators, BioInnovations Gateway is training 10-12th graders
USTAR Projects are relevant:
Aligned w Key Utah issues (cont)

- **Healthcare:** Theratarget (drug targeting); Araknitek (ligaments); Neuro disorders: PTSD (VA Hospital), Down Syndrome

- **Transportation:** USTAR Advanced Transportation Institute (UATI) and WAVE

- **Homeland Defense and Security:** Vaporsens (Meth sensor and bomb sniffing dog on a chip)

---

**Program 2: USTAR Research Buildings**

Core Facilities w/in 208,000sf
- 18000 sf Nanofabrication center
- 5300 sf Microscopy Suite: Imaging resources
- Life science labs

U of U: April 19, 2012 Ribbon Cutting
Program 2: USU Facilities and Infrastructure

October 7, 2010 ribbon cutting

USU USTAR Core Facilities
- Clinical nutrition center
- Bio Safety Level 3
- Vivarium
- Life science labs

Biofuels Infrastructure

USU BEERC: Hybrid Energy R&D Ctr (primarily private investment)

Program 3: Regional Technology Outreach

- In FY2012, 200+ projects in 21 of 29 counties
- Seed grant program (TCG) has yielded 98+ prototypes, 30+ new companies, 176+ new employees and over $20.3 Million in new private capital
- Team is working with USTAR Faculty on over 20 commercialization projects
Seed Grant Results:

- 89 grants, $3.4 million spent to date
- 170 patents filed
- $20.3 million in private equity and 176 jobs
- 56 new distribution agreements and 30 new companies
- 98 prototypes

SBIR/STTR Assistance Program
National Recognition for Utah SSAP

Utah’s SBIR-STTR Assistance Program (SSAP) is gaining recognition on a national scale and winning competitive federal program grants.

- FY12 = $50,000 FAST Grant
- FY13 = $80,000 FAST Grant
- Serving over 80 clients from Dixie to Cache Valley

Total of SBIR Wins and FAST Grants (since 2008):

$4,906,469
BiG Summary Accomplishments (FY12)

Summary: FY12 spending of $250,000 (est)
- Produced first incubator graduate, BloXR corporation
- Established infrastructure for student-staffed, natural products contract research organization capable of analyzing finished goods to meet label requirements
- Reduced overhead expenses by participating in tenant company research and product development activities
- Raised $27K in private funding

Since Inception (3 Years), eleven total companies have utilized the incubator to:
- Raise >$12M in funding
- Create 25 jobs
- Employ and train 16 high school student interns
- Company participation includes: Control Medical, Distal Access, DxNA, EZ Lift Rescue Systems, Knudra, MesaGen, SimplicityMD, Symbion, Turner Labs, Veritract, Zien

FY13 and FY14 Budget Overview: Details

See Packets for Details:

<table>
<thead>
<tr>
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<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>General Fund-Ongoing</td>
<td>14,501,300</td>
<td>13,952,700</td>
<td>16,990,300</td>
<td>16,990,300</td>
<td>9,000,000 (Note 1)</td>
</tr>
<tr>
<td>General Fund-One-Time</td>
<td>540,300</td>
<td>3,000,000</td>
<td>540,300</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Federal Funds ($33,000,000 in total)</td>
<td>17,115,649</td>
<td>-</td>
<td>-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SBIR Fees</td>
<td>4,750</td>
<td>3,107</td>
<td>5,000</td>
<td></td>
<td></td>
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<tr>
<td>Prior Year Carryforward (&quot;Beginning Nonlapsing&quot;)</td>
<td>16,744,869</td>
<td>21,701,989</td>
<td>10,923,725</td>
<td>0</td>
<td>Note 2</td>
</tr>
</tbody>
</table>

Total Funds Available: 48,366,568

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Outreach and Administration</td>
<td>2,530,734</td>
<td>2,509,762</td>
<td>2,726,400</td>
<td>1,995,300</td>
<td>TBD</td>
</tr>
<tr>
<td>Technology Commercialization Grants</td>
<td>2,463,808</td>
<td>401,569</td>
<td>300,000</td>
<td>-</td>
<td>TBD</td>
</tr>
<tr>
<td>University of Utah Research Team</td>
<td>12,730,038</td>
<td>14,192,640</td>
<td>15,422,886</td>
<td>8,997,000</td>
<td>TBD (Note 3)</td>
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<td>Utah State University Research Team</td>
<td>8,939,999</td>
<td>8,170,600</td>
<td>12,469,739</td>
<td>5,998,000</td>
<td>TBD (Note 4)</td>
</tr>
<tr>
<td>University and USU Advance Payments</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>TBD</td>
</tr>
</tbody>
</table>

Total Expenses: 26,664,579

Carryforward Remaining ("Closing Nonlapsing") 21,701,989

Note 1: FY’14 Additional requests show difference between on-going funding and amount currently needed to run research program
Note 2: FY’14 language states, “makes all money appropriated to the USTAR Governing Authority nonlapsing”
Note 3: FY’14 University Forecast has been submitted to USTAR. Final base budget will be based on 60% of budget remaining after allocating $1.995M to TBD
Note 4: FY’14 USU Forecast has been submitted to USTAR. Final base budget will be based on 60% of budget remaining after allocating $1.995M to TBD
National Recognition:

- **National Governor’s Association**: USTAR was featured in “2012 Growing State Economies Policy Framework Best Practices Guide”

- **Brookings Institute**: “USTAR has rapidly emerged as not just the state’s primary innovation driver, but as a national best practice…”

- **Nevada’s Knowledge Fund and Idaho’s iGEM**: Cited USTAR as a model in 2011 and 2012 enabling legislation respectively

Discussio / Q and A

Key Links for additional information

USTAR: [www.innovationutah.com](http://www.innovationutah.com)

BIG: [http://innovationutah.com/BIG.html](http://innovationutah.com/BIG.html)

SBIR: [http://innovationutah.com/sbir.html](http://innovationutah.com/sbir.html)
THANK YOU

Key Links for additional information
USTAR: www.innovationutah.com
BIG: http://innovationutah.com/BiG.html
SBIR: http://innovationutah.com/sbir.html

Appendix:
Why Innovate?
Measurement Framework
Program 1, and Program 3 Result Details
6 Year Summary Finances
Context: Why Innovate?

A crucial way to sustain a State’s long term competitive advantage is to drive prosperity and quality of life through continuous innovation and productivity improvements.

Utah’s Competitiveness & Strategic Advantage

#1 Metric: State GDP/Per Capita

Prosperity/Quality of Life

Wages Jobs

Establishment Growth

Policy coordination

Business Environment

Cluster Development/Synergies

Innovation

Productivity

Why Innovate?

Source: Copyright 2011 © Professor Michael E. Porter 20110602 – Michigan State Competitiveness – Rich Bryden

USTAR

Framework for Implementation & Measurement: USTAR

Economic Impact Associated with USTAR

- New earnings
- New jobs
- New tax revenues

USTAR Commercialization

- Spin-off companies
- Commercial research
- Licenses to firms

USTAR Technology Development

- Disclosures filed
- IP applications filed
- Patents issued

USTAR Research

- Grant applications submitted
- Grants funding (fed, industry sponsored)
- GOED Centers of Excellence funding

USTAR Teams

- Faculty hired
- Research facilities completed

FY2007 FY2015
Program 1 Success Story: Recruiting All-Star Talent

Program 3 Details: USTAR Directors

Alex Lawrence
Northern Utah

Al Walker
Eastern Utah

Jill Elliss
Southern Utah

Steve Roy
Central Utah
Central Utah USTAR TOIP FY12 Results Summary

- FY12 spending of $383,285

- Regional Economic Development
  - Created economic development strategy for UVU
  - Opened 25,000sf BRC and filled it to capacity in 3 months
  - TCG winners created 43 jobs, raised $2.5 million in private capital, and generated $1 million in sales
  - Won $160k TCIPs & raised $120k matching funds
  - Led implementation phase of the Digital Media UCAP

- USTAR Faculty Support
  - $120k TCIPs won, $240k matching funds secured
  - 8 disclosures, 4 patents, 6 clinical studies

Southern Utah USTAR TOIP FY12 Results Summary

Summary: USTAR FY12 spending of $322,168

- 12 TCG recipients created 2 companies, 17 prototypes, 3 new distribution agreements and 28 jobs
- Grew the ITRE Incubator Client base and impact (3 Companies Onsite, 12 Affiliate companies)
- Transitioned to Executive Director of Business Resource Center at Dixie State College

Details

- ITRE Incubator – Transitioning focus to mixed use “gazelle” companies which solve problems with tech innovation.
  Ex. Duct Wizard, Scent Master, Referral.IM
- Success stories: IDT, Touch MD, Cumulus. Adding employees, increasing sales...big news on the horizon
- Integrated and expanded funding sources – UCAP, BEAR, BRC EDA grant application
- Restructured So. Utah TOIP programs for efficient deployment of personnel based on institutional missions and objectives
Northern Utah USTAR TOIP FY12 Results Summary

Summary: USTAR FY12 spending of $350k

2 licensed technologies
41 projects
37 jobs created
$450k investment/grants
7 TCIP grants
3 GrowAmerica grants

Funding/Outreach
- Enve Composites saved 10 jobs and created 15 due to TCG grant funded product testing device produced by UCAID. 324 new jobs are projected
- Expanded UCAID facility to 22,000 ft², $500k partnership with Utah State
- Awarded 7 new TCIP Grants: Precision Targets, SelectPro, Theratarget, Smooth CAP, MedInno, Haemoscan, Torq Axle
- 5 Think Tank luncheons, 34 companies pitched

Startup Ogden
- Startup Weekend 1-3 November 12
- $2.4m raised to date, March 13 launch

Eastern Utah USTAR TOIP FY12 Results Summary

- FY12 spending of $380,508
- Regional Economic Development
  - 2011-2012 Winter Ozone Study in Uintah Basi – Dr. Scott Hill directed study of precursors
  - Native Asphalt Solutions: 1st in USA approved UDOT specification for oil sand based asphalt
  - Carbon Sequestration: developing capability to bring EOR (enhanced oil recovery) CO2 flood technology to the Uintah Basin and expand in the Paradox Basin
- Faculty Support
  - Homeland Defense Nanoscience – Vaporsens, Inc. Awarded $40K TCIP - 3 FTE
  - Alternative Energy – Nanosynth Sensor Technologies awarded CleanTech Open prize
**SSAP Program: Summary of “Wins” since 6/08**

13 wins = $4,756,469

**Cache * Davis * Salt Lake * Utah Counties**

13 – $180,707 July 2012; **Thermimage Inc.; NIH SBIR Phase I - Assist**
12 – $927,566 April 2012; **JSK Technologies; NIH Fast-Track SBIR Phase II - Assist**
11 – $ 99,898 Jan. 2012; **Box Elder Innovations; Air Force STTR Phase I – Assist**
10 – $500,000 Sept. 2011; **Heavystone; NSF SBIR Phase II – Assist**
9 – $600,000 May 2011; **Aribex; NASA; NSF SBIR Phase II – Assist**
8 – $150,000 May 2011; **Metallo Sensors; NSF SBIR Phase I – Assist**
7 – $149,672 March 2011; **Enclavix; NSF SBIR Phase I – Assist**
6 – $749,895 Dec. 2010; **LiveWire; DoD AF SBIR Phase II – Assist**
5 – $ 99,500 Sept. 2010; **JSK Technologies; NIH Fast-Track SBIR Phase I – Assist**
4 – $148,823 Sept. 2010; **Silicon Technologies Inc.; DARPA SBIR Phase I – Assist**
3 – $ 89,408 April 2010; **Wind Lift Technologies; USDA Phase I – Full Submission**
2 – $70,000 Sept. 2009; **Aribex; NASA STTR Phase I – Assist**
1 – $1,000,000 Sept. 2008; **New Path Technologies; STTR Phase II – Assist**

**Clients from Dixie to Box Elder County**

---

**BiG Summary Accomplishments (FY10-12)**

<table>
<thead>
<tr>
<th>Company</th>
<th>Private Capital Funding Raised to date (24mo)</th>
<th>Earnings</th>
<th># Employees</th>
<th>Plan to hire w/in 6 mos.</th>
<th># Interns</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zien Medical</td>
<td>$850,000</td>
<td>$ Not Disclosed</td>
<td>5</td>
<td>2</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Knudra</td>
<td>$340,000</td>
<td>$ Not Disclosed</td>
<td>3</td>
<td>1</td>
<td>5</td>
<td>Recently received NSF grant</td>
</tr>
<tr>
<td>MesaGen</td>
<td>$30,000</td>
<td>-</td>
<td>3</td>
<td>0</td>
<td>1</td>
<td>Self-funded, new to incubator</td>
</tr>
<tr>
<td>Simplicity MD</td>
<td>$11,000*</td>
<td>-</td>
<td>6 Part-time</td>
<td>1</td>
<td>1</td>
<td>Grow America award recipient working with intern at BiG</td>
</tr>
<tr>
<td>BloXR</td>
<td>$11,000,000</td>
<td>$ Not Disclosed</td>
<td>10+</td>
<td>15</td>
<td>2</td>
<td>Graduated, but keeping small space at BiG</td>
</tr>
<tr>
<td>Turner Labs</td>
<td>$10,000</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>Moved Out of BiG</td>
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<tr>
<td>Symbion Discovery</td>
<td>$617,000</td>
<td>-</td>
<td>3</td>
<td>-</td>
<td>2</td>
<td>Moved Out of BiG</td>
</tr>
<tr>
<td>BiG CRO</td>
<td>-</td>
<td>-</td>
<td>1</td>
<td>1</td>
<td>4</td>
<td>Natural Products analytical support</td>
</tr>
<tr>
<td>Totals</td>
<td>$12,847,000</td>
<td>&gt; $500K</td>
<td>25</td>
<td>19</td>
<td>16</td>
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</table>

*Not included in summary statistics
See Packets for Details:

### FY13 and FY14 Budget Overview: 6 year trend details

**USTAR Budget Request for FY2013 and FY2014**

<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td><strong>Sources of Funding:</strong></td>
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<td></td>
<td></td>
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<tr>
<td>General Fund - Ongoing</td>
<td>19,250,000</td>
<td>19,324,500</td>
<td>16,297,800</td>
<td>15,296,100</td>
<td>14,501,300</td>
<td>13,952,700</td>
<td>16,990,300</td>
<td>16,990,300</td>
<td>9,000,000</td>
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<tr>
<td>Federal Fund - One-Time</td>
<td>(1,547,703)</td>
<td>(5,072,900)</td>
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<td></td>
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<tr>
<td>SBIR Fees</td>
<td>-</td>
<td>-</td>
<td>6,515</td>
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<td></td>
<td></td>
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<tr>
<td>Prior Year Carryforward</td>
<td>9,286,195</td>
<td>11,269,702</td>
<td>12,164,984</td>
<td>16,744,689</td>
<td>21,761,989</td>
<td>10,923,725</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total Funds Available</strong></td>
<td>19,250,000</td>
<td>28,610,695</td>
<td>25,726,117</td>
<td>38,282,135</td>
<td>48,366,568</td>
<td>36,198,296</td>
<td>30,919,025</td>
<td>16,990,300</td>
<td>9,000,000</td>
</tr>
</tbody>
</table>

**Uses of Funding:**

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<tr>
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</thead>
<tbody>
<tr>
<td>Outreach and Administration</td>
<td>672,157</td>
<td>3,056,114</td>
<td>3,507,832</td>
<td>2,633,637</td>
<td>2,530,749</td>
<td>2,509,762</td>
<td>2,726,400</td>
<td>1,995,300</td>
</tr>
<tr>
<td>Technology Commercialization Grants</td>
<td>-</td>
<td>-</td>
<td>2,463,808</td>
<td>2,530,749</td>
<td>2,509,762</td>
<td>2,726,400</td>
<td>1,995,300</td>
<td>1,995,300</td>
</tr>
<tr>
<td>University of Utah Research Team</td>
<td>126,047</td>
<td>8,919,190</td>
<td>11,992,964</td>
<td>12,159,312</td>
<td>12,730,038</td>
<td>14,192,649</td>
<td>16,744,689</td>
<td>15,422,869</td>
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<tr>
<td>Utah State University Research Team</td>
<td>2,136,552</td>
<td>4,651,186</td>
<td>5,619,733</td>
<td>6,352,571</td>
<td>8,939,999</td>
<td>8,170,600</td>
<td>12,469,739</td>
<td>5,998,000</td>
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<tr>
<td>U of U and USU Advance Payments</td>
<td>7,027,049</td>
<td>814,503</td>
<td>(7,559,196)</td>
<td>(282,357)</td>
<td>-</td>
<td>-</td>
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<td></td>
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<tr>
<td><strong>Total Expenses</strong></td>
<td>9,963,805</td>
<td>17,340,993</td>
<td>13,561,133</td>
<td>21,537,266</td>
<td>26,664,579</td>
<td>25,274,571</td>
<td>30,919,025</td>
<td>15,990,300</td>
</tr>
<tr>
<td>Carryforward Remaining (&quot;Closing Nonlapsing&quot;)</td>
<td>9,286,195</td>
<td>11,269,702</td>
<td>12,164,984</td>
<td>16,744,689</td>
<td>21,761,989</td>
<td>10,923,725</td>
<td></td>
<td>0</td>
</tr>
</tbody>
</table>

**Notes:**

1. FY'14 Additional requests show difference between on-going funding and amount currently needed to run research program
2. FY'14 U of U Forecast has been submitted to USTAR; Final base budget will be based on 60% of budget remaining after allocating $1.995M to TOIP
3. FY'14 USU Forecast has been submitted to USTAR; Final base budget will be based on 60% of budget remaining after allocating $1.995M to TOIP

---

**USTAR Update:** October 12, 2012