STRATEGIC PLANNING SUMMIT

NOVEMBER 6, 2014
AGENDA

WELCOME AND OVERVIEW.................................CHERYL. B SCHRADER

INNOVATION TEAM.............................................ROSE HORTON

INNOVATION FUNDS RESULTS..............................KATE DROWNE

STRATEGIC PLAN OVERVIEW..............................ROSE HORTON

CAMPUS PROGRESS............................................ROBERT MARLEY
We strive to provide maximum return on investment - for our students, the employers who hire them, and our supporters.

RISING TO THE CHALLENGE: MISSOURI S&T'S STRATEGY FOR SUCCESS

Faced with tightening budgets, technological disruption and increased public debate about the value of a college degree, institutions everywhere are coming to the realization that the days of 'business as usual' are quickly drawing to a close.

Visit strategicplan.mst.edu to view our complete plan
### FY14

<table>
<thead>
<tr>
<th>Initiative</th>
<th>Investment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leverage S&amp;T as Missouri’s technological research university</td>
<td>$2,570,000</td>
</tr>
<tr>
<td>Apply technology to enhance learning and productivity</td>
<td>$132,000</td>
</tr>
<tr>
<td>Improve learning laboratories</td>
<td>$500,000</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$3,202,000</strong></td>
</tr>
</tbody>
</table>

### FY15

<table>
<thead>
<tr>
<th>Initiative</th>
<th>Investment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Doctoral student recruitment and retention</td>
<td>$3,047,550</td>
</tr>
<tr>
<td>Investment in signature areas</td>
<td>$1,493,300</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$4,540,850</strong></td>
</tr>
</tbody>
</table>
17% increase in state appropriations since FY13

<table>
<thead>
<tr>
<th>Year</th>
<th>Millions</th>
</tr>
</thead>
<tbody>
<tr>
<td>FY13</td>
<td></td>
</tr>
<tr>
<td>FY14</td>
<td></td>
</tr>
<tr>
<td>FY15</td>
<td></td>
</tr>
</tbody>
</table>
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History of the Innovation Team

**Lever 1.2:** Foster innovation and creativity for faculty, staff, students and administration

**Action 1.2.1:** Create and promote an innovation team that solicits and considers creative suggestions from the Missouri S&T family; empower owners for implementation
• Del Day, Curators' Professor Emeritus of Materials Science and Engineering
• Dennis Goodman, Medical Director
• Rose Horton, Strategic Planning Progress Manager
• Greg Smith, Chief Information Officer
• Nancy Stone, Professor and Chair Psychological Science
• Keith Strassner, Director Office of Technology Transfer and Economic Development
• Joan Woodard, Executive Vice President Emeritus, Sandia National Laboratories, Corporate Director PNM Resources, Board of Trustees President, 2012-2014
Strategic Planning Progress

211 Parker Hall, 300 W. 13th Street, Rolla, MO 65409 - Phone: (573) 341-7685 - Fax: (573) 341-6306 - Email: hortonmm@mst.edu

Strategic planning progress - where innovation and implementation intersect!

"This strategic plan is the fruit of an unusual process-one in which we flipped our perspective and viewed Missouri S&T from our customers’ point of view. Thousands of participants addressed how to provide a top return on investment for six key customers groups chosen from among 36 very important stakeholders," Chancellor Cheryl B. Schrader. The strategic plan provides the detailed roadmap for the direction of the campus and that direction is clearly defined in the strategy statement."
FY15 Approved Proposal
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## Writing Center Growth

<table>
<thead>
<tr>
<th></th>
<th>2009-10</th>
<th>2013-14</th>
<th>Increase</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Tutoring Sessions</td>
<td>1268</td>
<td>2700</td>
<td>213%</td>
</tr>
<tr>
<td>Freshman Tutoring Sessions</td>
<td>486</td>
<td>1332</td>
<td>274%</td>
</tr>
<tr>
<td>Meetings &amp; Workshops</td>
<td>23</td>
<td>45</td>
<td>196%</td>
</tr>
</tbody>
</table>
Prioritized Action 1.2.13:

Identify, develop and implement developmental experiences designed to enhance students’ interpersonal, communication and leadership skills
TIMELINE

August
► Grant application
► Award notification
► iPads purchase
► Apps purchases
► Training materials

September
► Tutor training
► Roll-out
• Electronic editing tools
• Audio/visual recording
• Online resources
• Follow-up appointments
POSITIVE OUTCOMES

► Feedback
► Speed
► Focus
► Flexibility
► Resource savings
► Visibility
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CAMPUS PROGRESS..................................................ROBERT MARLEY
• FY15 plan more user friendly
• 163 active actions
• 20 active levers
• Semi-annual and annual reports completed
• Experiential learning defined
• Learning Commons
• Council of Graduate Students “Ignite Rolla”
• Professional development lunch-n-learn series
• Scholarship process improvement
• New programs
SUCCESSFUL STUDENTS

Action 1.1.5: Career Opportunities and Employer Relations will continue to explore internship and externship opportunities in the summer and inter-sessions as well as during semesters.

Career Fair- Fall 2014

- 304 Employers
- 54 Fortune 500 Employers
- 900+ on-campus interviews

527 internships with 284 different employers

40 students attended externship over spring break 2014
SCHOLARSHIP PROCESS IMPROVEMENT

Lever 1.2: Foster innovation and creativity for faculty, staff, students and administration

- Relieves administrative burden for academic departments
- Academic departments still can select recipients
- Centralizes and simplifies process for students
- Ensures timely distribution of scholarship funds

A Missouri S&T chemical engineering undergraduate student poses for a picture that will be sent to her scholarship donor in August 2014.
**NEW PROGRAMS**

**Action 1.2.6:** Develop minor and certificate programs in leadership, entrepreneurship, humanitarian engineering and science and creativity

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**New Academic Programs**

- Credential in elementary STEM education
- Doctoral program in explosives engineering
- Minor in entrepreneurship
- Minor in humanitarian engineering and science
- M.S. in industrial-organizational psychology
Theme 1: Develop and inspire creative thinkers and leaders for lifelong success

Starting Salary Potential

- 15th in the nation (public and private)
- 7th in the nation for public universities
- 2nd in the Midwest (public and private)
- 10th in the nation for engineering schools

Undergraduate Starting Salary

2012: $59,504
2013: $61,412
• Faculty hires
• Undergraduate enrollment
• Campus structure changes
• Research expenditures
• Increased number of transfer articulation agreements
• Marketing study
• Redesign high-volume courses
• Four signature areas
Signature Areas

**Action 2.1.1:** Identify two BIC areas for investment and initiate discussions on another two BIC areas.

**Action 2.1.7:** Finalize third and fourth BIC areas for investment beginning year two.

**Advanced Manufacturing**

**Advanced Materials for Sustainable Infrastructure**

**Enabling Materials for Extreme Environments**

**Smart Living**
Action 2.2.1: Increase Missouri S&T’s undergraduate enrollment by 500 by 2020

2012 = 5,843
2013 = 6,146
2020 goal = 6,343
**Action 2.2.1:** Increase Missouri S&T’s undergraduate enrollment by 500 by 2020

New freshmen hail from 36 states

2014

6,522 Undergraduate
2,120 Graduate
8,642 Students

Six countries are represented by S&T students in freshman class
FACULTY HIRES

Action 2.2.3: Increase the number of T/TT and (NTT) faculty members by 67 (33)

• Hired 17 additional faculty
• Filled 19 vacancies
• Recruiting for 18 additional faculty and 1 offer is currently pending
  • # women faculty
    ▶ 2013 increased by 1
    ▶ 2014 increased by 18
  • # ranked NTT faculty
    ▶ 2013 increased by 6
    ▶ 2014 increased by 7
Lever 2.3: Develop a culture of excellence in research, scholarship and creative activity among faculty, staff and students

Net grant research expenditures
- FY12 = $34.6M
- FY13 = $36.3M
- FY14 = $37M

Number of U.S. Patents
- FY13 = 11
- FY14 = 15

Number of license and option agreements
- FY13 = 16
- FY14 = 22
Action 2.5.8: Redesign high-volume courses through integration of new technology and modified teaching methods to enhance student learning

- Calculus I redesign in process
- Two sections of Calculus I lab piloted Fall 2014
- Survey created to compare all Calculus I students reaction of redesigned labs
- Video library
- GTA training program in developmental phase
CAMPUS STRUCTURE

Lever 2.7: Address Administrative structural changes to facilitate strategy and enhance national visibility

- **New Structure**
  - College of Arts, Sciences, and Business
  - College of Engineering and Computing

- **New Leaders**
  - Robert Marley
  - Stephen Roberts
  - Ian Ferguson
  - Kent Wray began new role as Vice Chancellor for Global and Strategic Partnerships
• Department performance measures
• Instructional lab enhancements
• Increased the number of underrepresented and female students
• Micro-grid in Solar Village
• Master Plan
Action 3.3.1: Leverage strategic funds for instructional laboratories with matching funding from non-appropriated sources

Chemical and biochemical engineering ✓
Chemistry (2) ✓
Computer science
Electrical and computer engineering ✓
Geological science and engineering
Mechanical and aerospace engineering ✓
Mining and nuclear engineering (2) ✓ ✓
Petroleum engineering ✓
Physics ✓

In progress or completed
Action 3.3.4: Continue evaluating all campus facilities for their readiness for sustainable growth and return on investment

- Bertelsmeyer Hall
- Hasselmann Alumni House
- University Promenade
- Geothermal Project
- Artificial Turf
### Student Diversity

**Lever 3.4:** Promote inclusion and increase diversity of faculty, staff, students and administrators to remain relevant and competitive in a global environment.

<table>
<thead>
<tr>
<th>Student diversity percentage</th>
<th>Number of underrepresented</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012 = 8.40%</td>
<td>2012 = 552</td>
</tr>
<tr>
<td>2013 = 8.50%</td>
<td>2013 = 566</td>
</tr>
<tr>
<td></td>
<td>2014 = 706</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Number of women</th>
<th>Number of minorities</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012 = 1,732</td>
<td>2012 = 804</td>
</tr>
<tr>
<td>2013 = 1,839</td>
<td>2013 = 881</td>
</tr>
<tr>
<td>2014 = 1,954</td>
<td>2014 = 983</td>
</tr>
</tbody>
</table>
**Lever 3.8:** Exercise leadership in sustainability on campus and in the community by modeling sustainability practices in daily operations and practicing environmental stewardship.

- Open forums held in Fall ‘13 and Winter ‘14
- Input from multiple stakeholders
- Endorsed by the UM System Board of Curators
- Focuses activity at the heart of campus
### DONORS

**Lever 3.9:** Conduct a comprehensive fundraising campaign to secure private support for identified campus priorities

#### Donor Satisfaction

<table>
<thead>
<tr>
<th></th>
<th>OGS</th>
<th>Non-OGS</th>
<th>Direct mail</th>
<th>Total</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very satisfied</td>
<td>103</td>
<td>572</td>
<td>76</td>
<td>751</td>
<td>39.3%</td>
</tr>
<tr>
<td>Satisfied</td>
<td>67</td>
<td>735</td>
<td>126</td>
<td>928</td>
<td>48.6%</td>
</tr>
<tr>
<td>Neutral</td>
<td>15</td>
<td>163</td>
<td>26</td>
<td>204</td>
<td>10.69%</td>
</tr>
<tr>
<td>Dissatisfied</td>
<td>1</td>
<td>11</td>
<td>1</td>
<td>13</td>
<td>0.68%</td>
</tr>
<tr>
<td>Very dissatisfied</td>
<td>3</td>
<td>6</td>
<td>3</td>
<td>12</td>
<td>0.63%</td>
</tr>
<tr>
<td>Total</td>
<td>189</td>
<td>1,487</td>
<td>232</td>
<td>1,908</td>
<td></td>
</tr>
</tbody>
</table>

**Annual Fundraising**

FY13 = $10.1M  
FY14 = $13.8M

88% of donors were satisfied or very satisfied
• Number of distance/online students
• Strategic initiative for increasing graduate students
• Development of 100% online labs
• Increased memorandum of understandings for Ph.D. students
Number online courses in a year
- 2012 = 27
- 2013 = 28

Number blended in a year
- 2012 = 27
- 2013 = 28

Number online courses fall semester
- 2012 = 164
- 2013 = 181

Number blended fall semester
- 2012 = 12
- 2013 = 13

Lever 4.1: Create a comprehensive distance and online education strategy
**STUDENT ACCESS**

**Lever 4.1**: Create a comprehensive distance and online education strategy

Number of students enrolled in distance/online

- Fall semester 2012 = 1,513
- Fall semester 2013 = 1,762
- Fall semester 2014 = 2,583
NEED TO FOCUS

- Retention [has improved-target 88%]
- Ph.D. enrollment
- NSF grant expenditures per T/TT [declined 22%]
- Six year graduation rate [at 63% a decline of 2%]
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TO WHOM MUCH IS GIVEN, MUCH IS REQUIRED.
ANY QUESTIONS?

THANK YOU!