POWERING AMERICA’S — AND NEVADA’S — ADVANCED INDUSTRIES
1 2 3 4

Context
What, why
Trends
Strategy
1  Context
- 122,000
Jobs lost in Las Vegas

+ 46,500
Jobs gained in Las Vegas since Recession

Las Vegas recession, 3rd worst of all U.S. large metropolitan areas

Source: Brookings Analysis of Moody's Analytics
UNIFY REGIONALIZE DIVERSIFY
AN ECONOMIC DEVELOPMENT AGENDA FOR NEVADA

Moving Nevada Forward:
A Plan for Excellence in Economic Development
2012 - 2014
2 What, why
Relentless pace of technological change

Blurring distinction between manufacturing and services

“Digitization of everything”
Advanced Industries

R&D-intensive industries that concentrate the nation’s science, technology, engineering, and mathematics (STEM) workforce
Advanced Industries

Wages

$90,000 > $47,000

average advanced industry wage
average wage

Skills

1 out of 2
advanced industry jobs require less than a 4-year degree

Source: Brookings Analysis of Moody's Analytics and BLS OES Data
Advanced Industries
Share of US Totals

- U.S. Workers: 8.7%
- U.S. GDP: 17.9%
- Exports: 57.5%
- Engineers / Architects: 79.0%
- Patents: 81.2%
- Private Sector R&D: 90.0%
Advanced Industries

Develop Technology that Transforms Lives

Drive Productivity in Other Industries

Support Long Supply Chains

Stimulate Local Economies
3 Trends
Advanced Industries

Trends

Indexed Performance, 1980-2013
(1980 = 100)

Source: Brookings Analysis of Moody’s Analytics
Advanced Industries Trends

Indexed Performance, 2010-2013
(2010 = 100)

Source: Brookings Analysis of Moody's Analytics
Growth in jobs 1980-2013

Advanced Industries
Annual Employment Growth, 1980-2013

Source: Brookings Analysis of Moody's Analytics
Advanced Industries
Share of Total Metro Area Employment in Advanced Industries

- 2.0 to 5.8 percent
- 5.8 to 8.3 percent
- 8.3 to 11.3 percent
- 11.3 to 16.0 percent
- 16.0 to 29.9 percent
Advanced Industries
Manufacturing Specialized Metro Areas

Boise City, ID
- Computers and peripherals
- Semiconductors
- Commercial & service ind. machinery

Palm Bay, FL
- Audio & video equipment
- Semiconductors

Detroit, MI
- Motor vehicles
- Motor vehicle parts
- Iron & steel mills
Advanced Industries
Energy Specialized Metro Areas

Oklahoma City, OK
- Oil & gas extraction
- Electric power generation

Salt Lake City, UT
- Metal ore mining

Birmingham, AL
- Electric power generation
Advanced Industries

Balanced Metro Areas

San Jose, CA
- Computer & peripheral equipment
- Web services
- Semiconductors

Austin, TX
- Computer & peripheral equipment
- Semiconductors
- Software publishers

Seattle, WA
- Aerospace products & parts
- Software publishing
- Wireless telecommunications
Advanced Industries

Nevada

61,000
Advanced Industry Jobs

$16 billion
Advanced Industry Output

10.0%
job growth since 2010

15.1%
output growth since 2010

Top growth industries

- Data processing and hosting
- Pharmaceutical and medicine manufacturing
- Computer systems design
- Software publishers
- Metal ore mining
Advanced Industries
Las Vegas

30,800
Advanced Industry Jobs

$6.0 billion
Advanced Industry Output

9.0%
job growth since 2010

8.0%
output growth since 2010

Top growth industries

Data processing and hosting
Computer systems design
Medical and diagnostic laboratories
Other miscellaneous manufacturing
Software publishers
Global Challenges

Slow Productivity Growth

Annual average growth in output per worker
(1999-2007)

<table>
<thead>
<tr>
<th>Country</th>
<th>1999-2007 Growth</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hungary</td>
<td>12.5%</td>
</tr>
<tr>
<td>Denmark</td>
<td>10.5%</td>
</tr>
<tr>
<td>Sweden</td>
<td>8.0%</td>
</tr>
<tr>
<td>Austria</td>
<td>7.9%</td>
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<tr>
<td>Germany 2007</td>
<td>7.9%</td>
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<tr>
<td>Average</td>
<td>7.8%</td>
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<tr>
<td>United States</td>
<td>7.0%</td>
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<tr>
<td>Belgium</td>
<td>6.9%</td>
</tr>
<tr>
<td>Spain</td>
<td>6.6%</td>
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<tr>
<td>Italy</td>
<td>5.7%</td>
</tr>
</tbody>
</table>
Global Challenges

*Falling Contribution of AIs to Output*

Advanced industries share of total GDP (1995 - 2007)
Global Challenges

Negative Trade Balance

Trade Surplus / Deficit in Advanced Industries
(2012, thousands)

- Oil and gas extraction: $90,000
- Aerospace products and parts manufacturing: $210,000
- Rubber and related products manufacturing: $100,000
- Computer and information services: $0
- Management consulting: $0
- Royalties: $0
- Computer equipment manufacturing: $0
- Motor vehicle manufacturing: $0
- Semiconductor manufacturing: $0
- Oil and gas extraction: $0
Global Challenges

Deteriorating Innovation Advantage

Triadic patents per million workers
2010-2012 average
# Global Challenges

## Skills

<table>
<thead>
<tr>
<th>RANK</th>
<th>VALUE</th>
<th>RANK</th>
<th>VALUE</th>
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<tbody>
<tr>
<td>24</td>
<td>Slovenia 0.86%</td>
<td>30</td>
<td>Norway 22.0%</td>
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<td>25</td>
<td>Estonia 0.84%</td>
<td>31</td>
<td>Australia 21.9%</td>
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<td>26</td>
<td>Canada 0.82%</td>
<td>32</td>
<td>Poland 21.8%</td>
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<td>27</td>
<td>United States 0.77%</td>
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<td>United States 19.3%</td>
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<td>28</td>
<td>Netherlands 0.76%</td>
<td>34</td>
<td>Chile 19.2%</td>
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<tr>
<td>29</td>
<td>Hungary 0.75%</td>
<td>35</td>
<td>Japan 18.7%</td>
</tr>
</tbody>
</table>

Share of population 20-34 with a STEM degree

Percentage of graduates majoring in STEM fields
Global Challenges
Metro Hollowing Out

Major metropolitan areas with at least 10 percent of total employment in advanced industries

1980
2013
4 Strategy
Commit to innovation

Expand basic and applied research

Build research specializations aligned with industry needs

Continue pursuit of Tier 1 research status
Develop the STEM pipeline

Set a strong vision of STEM's importance

Invest in industry aligned regional skills initiatives

Address the state’s basic proficiency crisis
Embrace the ecosystem

Focus on bottom-up regional economic development

Aid and abet the emergence of local clusters

Create greater networking and collaboration hubs
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