

Ohio Farm Foundation Roundtable
Columbus, OH
June 11, 2015



Battelle, Global R&D Drivers and the Role of Land-Grant Universities

Dr. Jeffrey Wadsworth
President & Chief Executive Officer

1929

1940s

1965

1970s–1980s

1990s

2000s

Today

1929

Battelle was established to make inventions, promote societal good and improve education



1929



1940s-1960s



1970s-1980s



1990s-2000s



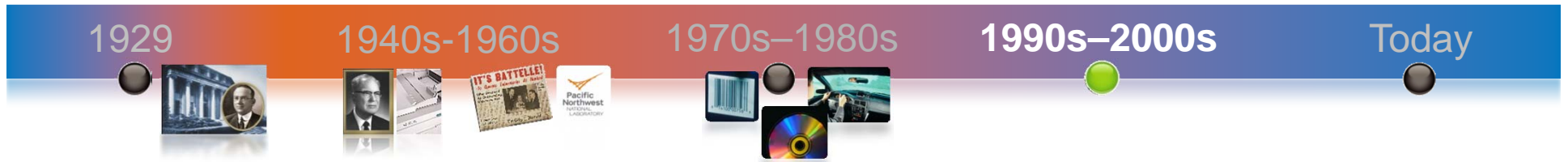
Today



1970s-80s

Universal Product Code, Compact Disk, Cruise Control





1990s

Lab Management Leader



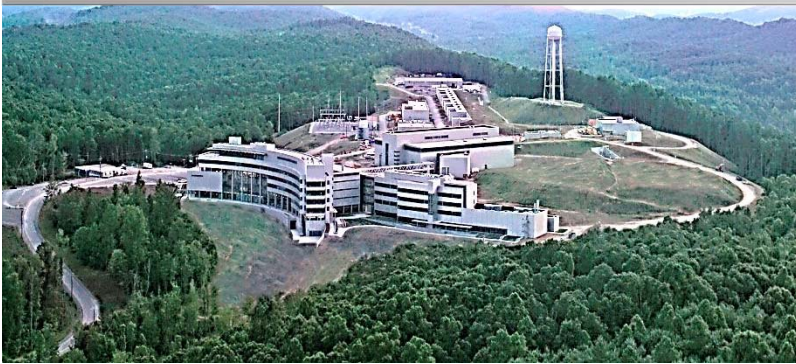
2000s

Further Growth and International Expansion



Developing some of the world's largest and most powerful scientific instruments

Spallation Neutron Source



National Ignition Facility



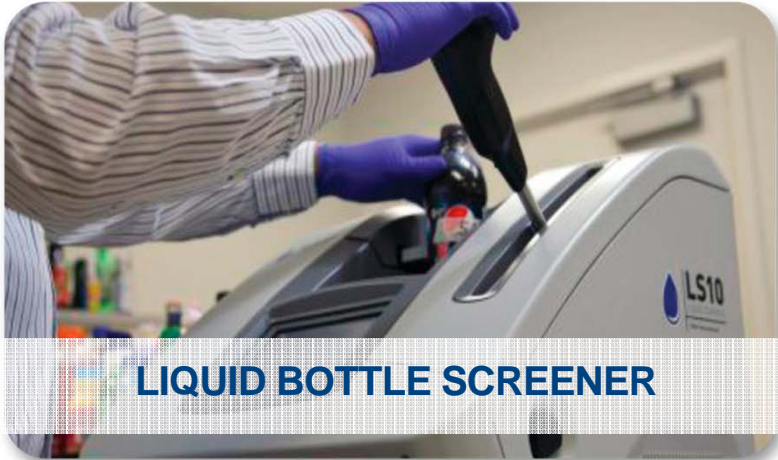
NSLS-II Advanced Synchrotron



Fastest Computer



Solving complex and interlocking security, energy and health challenges



Battelle – partnering to transform education



Ohio STEM Learning Network

Achieve

UDACITY

BHEF BUSINESS-HIGHER EDUCATION FORUM™

1929 Kenny Road
Metro High School

KIPP: COLUMBUS

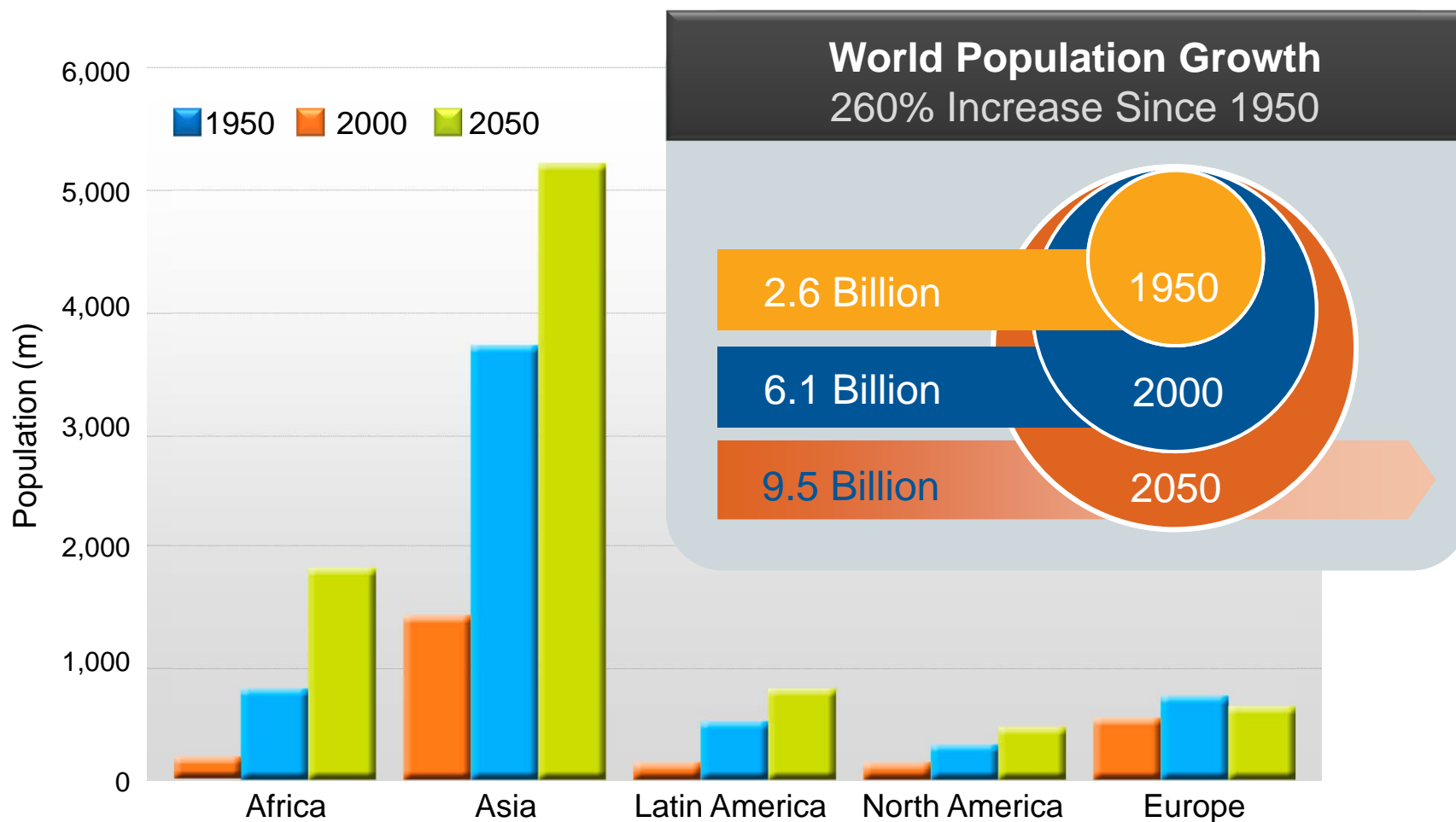
Battelle for Kids Bringing clarity to school improvement



Battelle's current strategy



Population growth will drive many issues



Source: Scientific American and United Nations and Population Reference Bureau

By 2050: Our planet's dramatic changes

+40%
Energy
Demand



+75%
People
In Cities



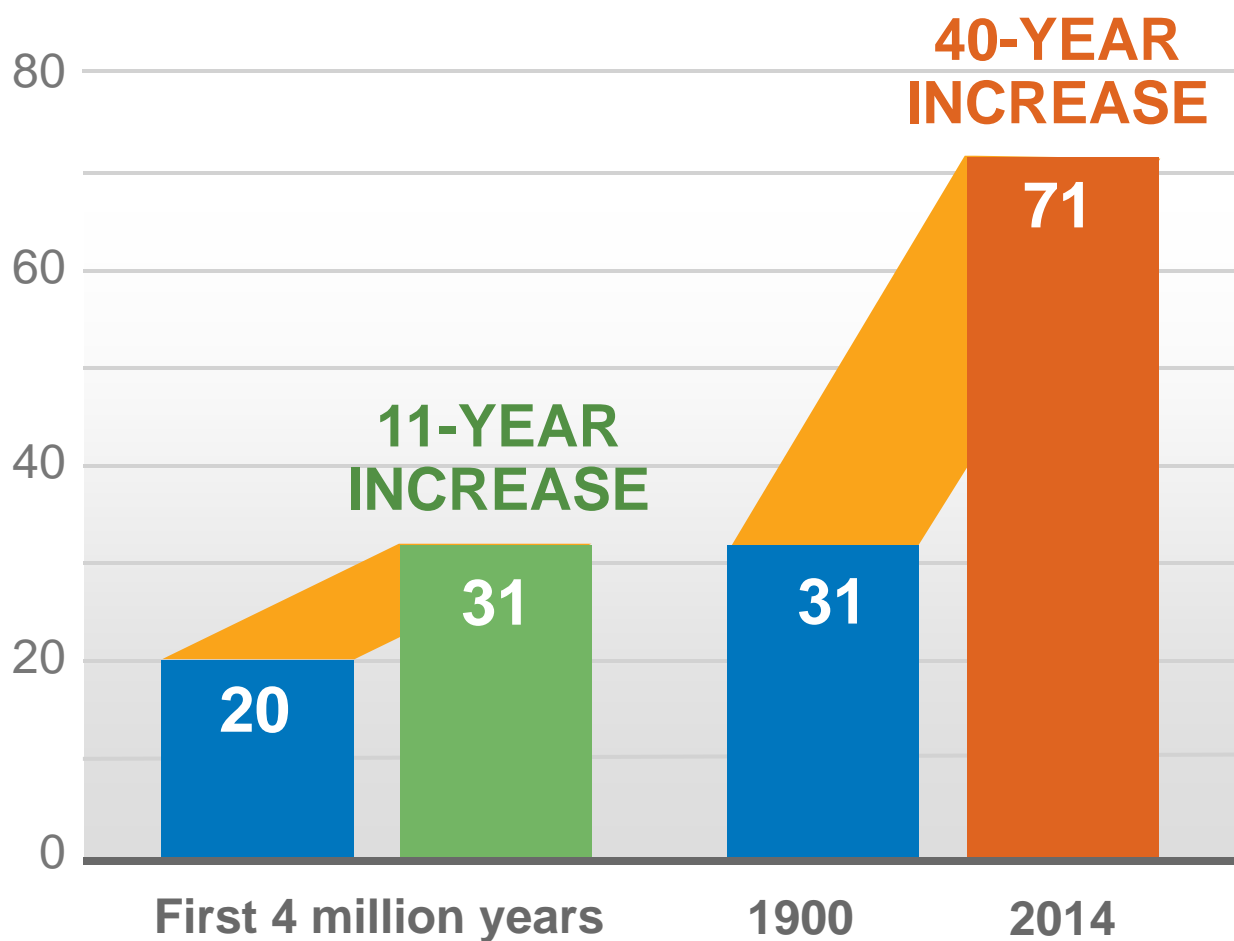
+100%
Vehicles
On Roads



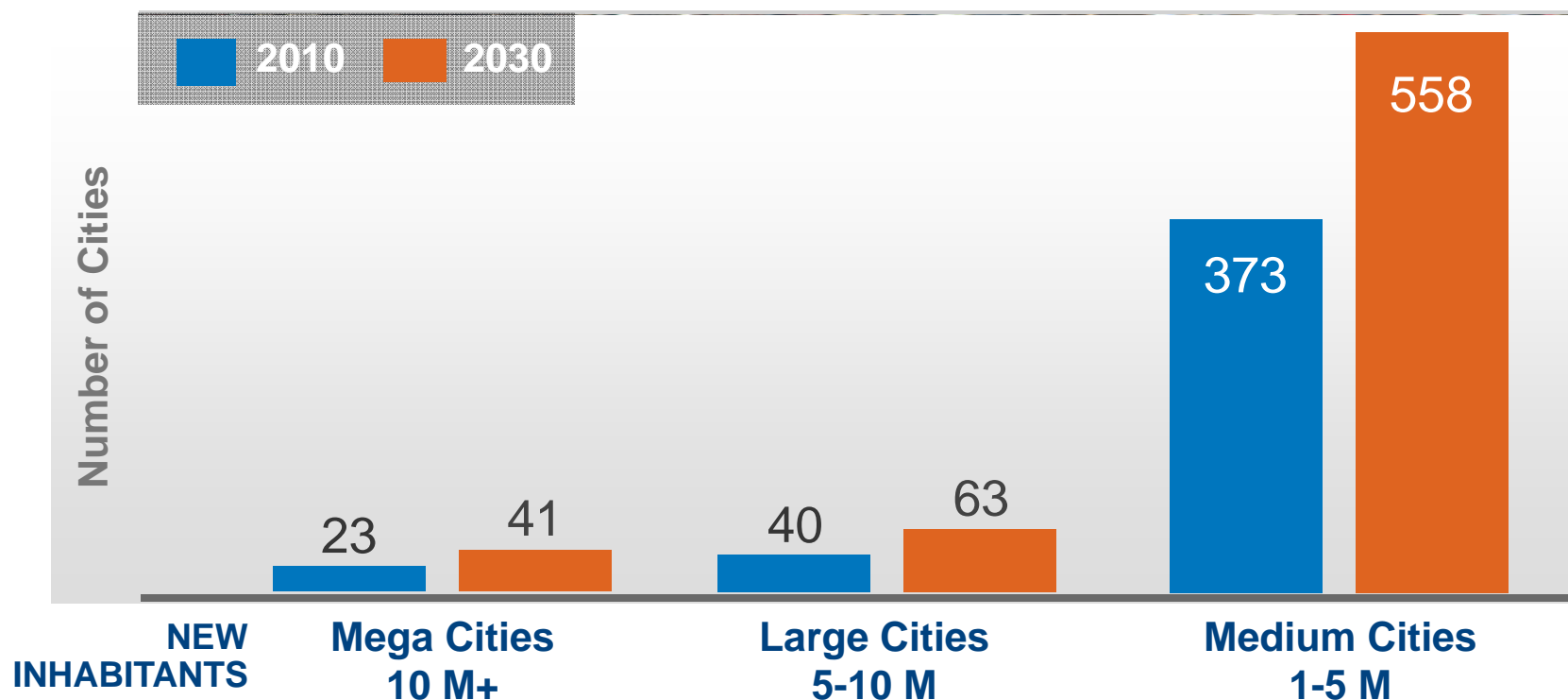
+70%
Food and
Water



Increased life expectancy will exacerbate demand



By 2030, over 200 cities will have at least one million inhabitants



Source: *The Wealth of Cities: The Investment Implications for Urban Expansion*

Global demand drives farm productivity

IN 1900:

One American farmer produced enough food to feed about 4 people

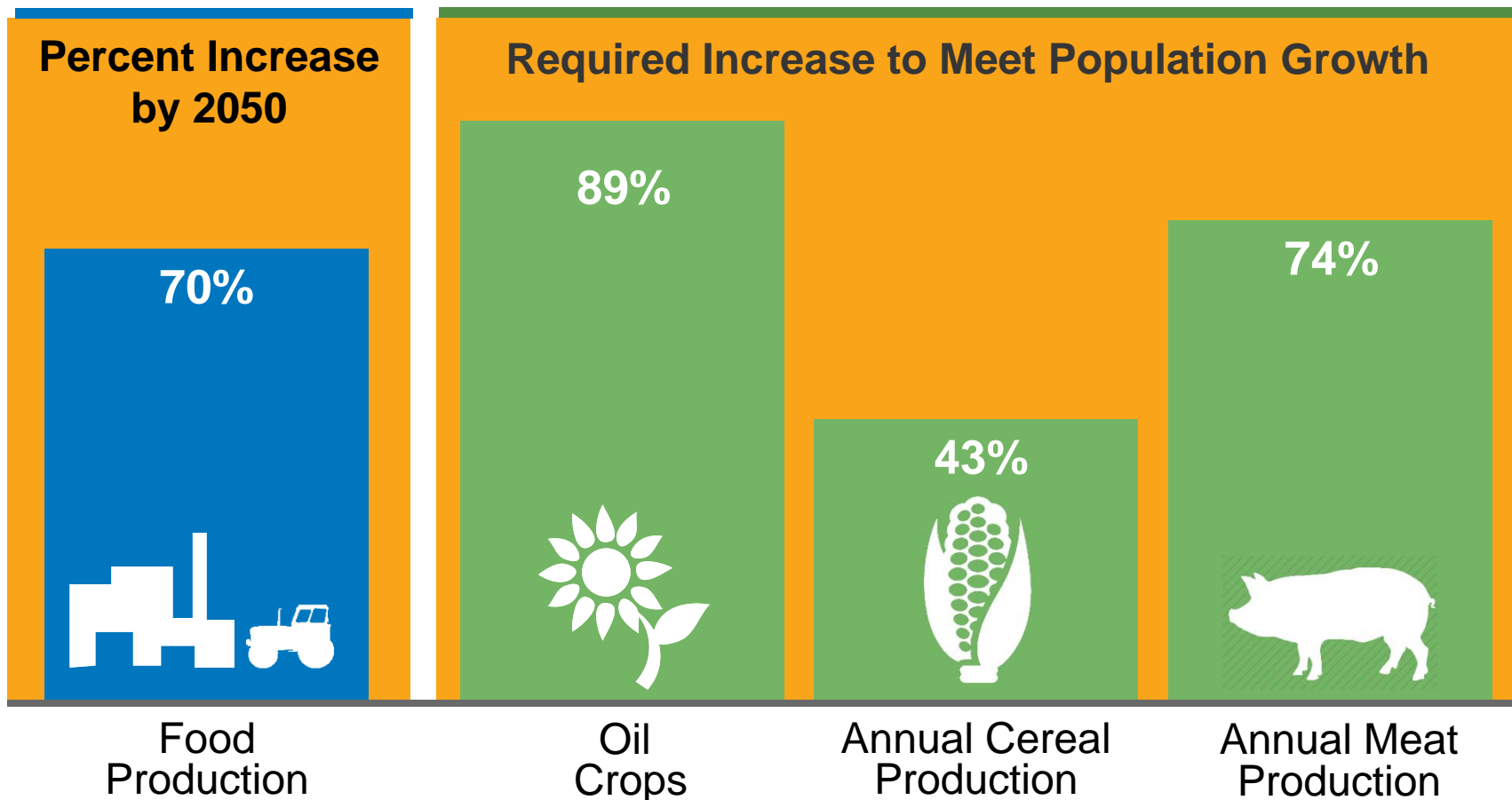


IN 2000:

One American farmer produced enough food to feed about 155 people



Population growth necessitates large increases in food production



Source: Milken Conference, UN, USDA

Some of Battelle's agro/food solutions



Battelle's water and food innovations



Ohio Soybean Council and Battelle celebrating 20 years of collaboration

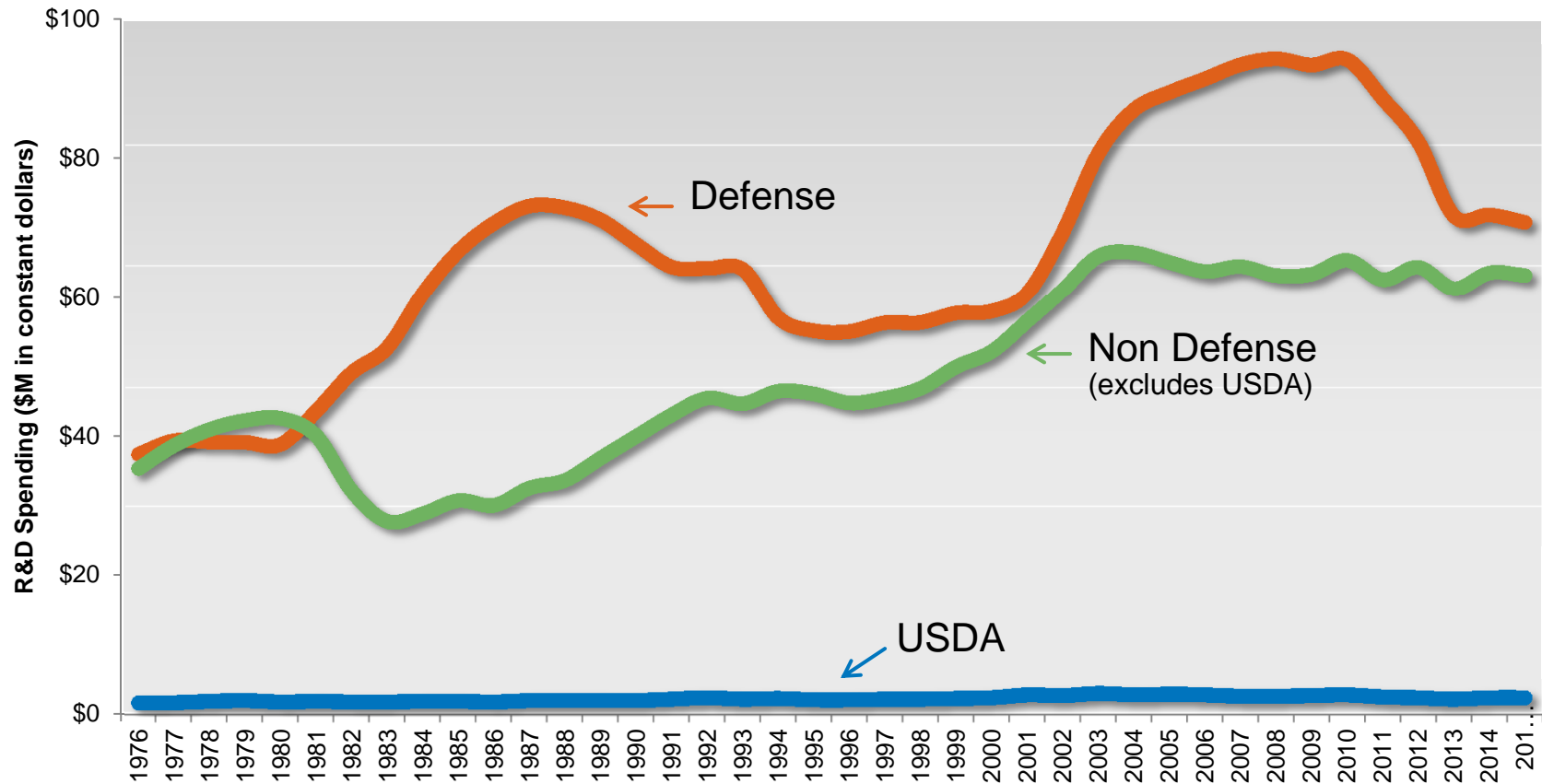


Land grant universities created a new type of higher education institution

- In the 1800s, 85% of the US population resided in farms or small towns
- Education was dominated by private universities
- President Lincoln signed the Morrill Act of 1862 to allow working class citizens access to higher education, farming and mechanical skills
- Expanded by the Hatch Act of 1887; agricultural experimentation stations established to help rural citizens
- Smith Lever Act of 1914 provided cooperative extension services



The nation's R&D priorities have changed and agriculture R&D has not kept pace



Source: NSF and AAAS

What is the future of land-grant universities?

- The need for land-grants to drive societal growth and development has never been higher
- The current challenges confronting the U.S. are as important as those that led to the passage of the Morrill Act



OSU seeks to balance the land-grant mission with 21st century challenges

- Access and affordability
- Teaching excellence
- Diversity and inclusion



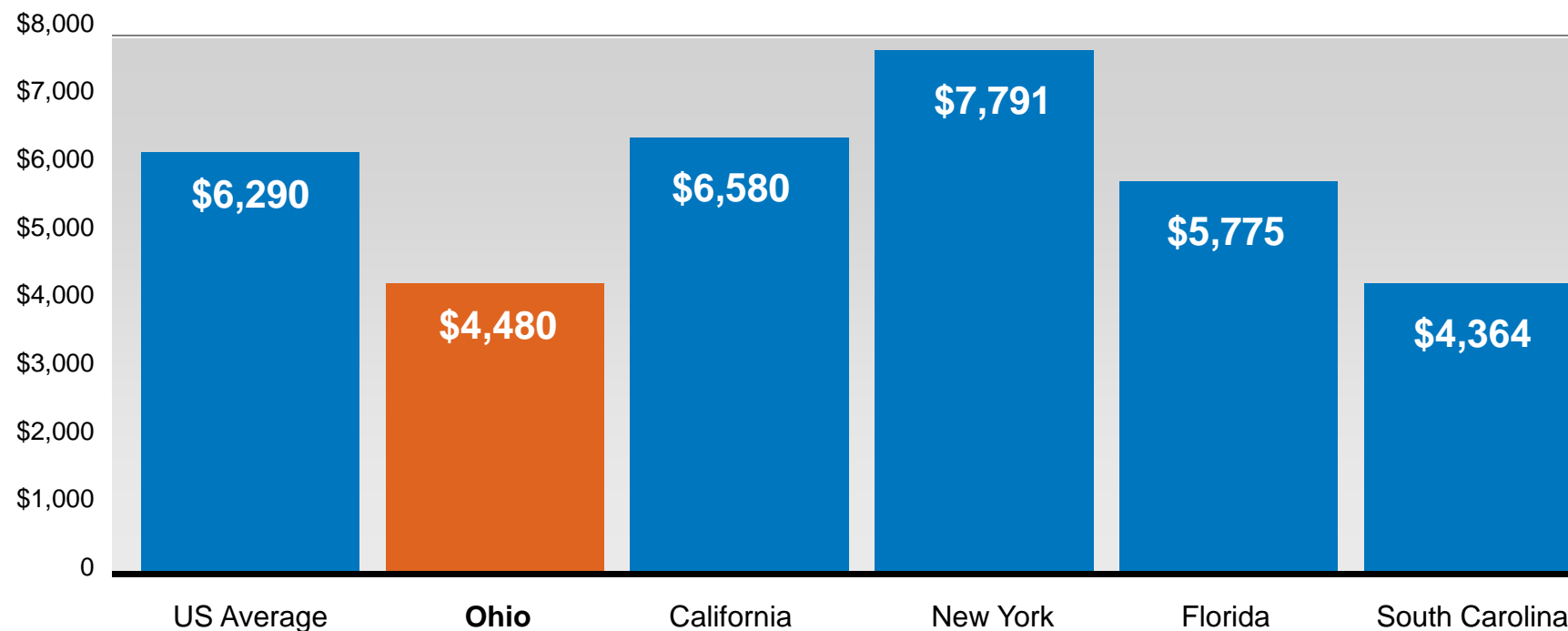
Ohio State's Discovery Themes address future technological, environmental and social stresses

- Energy and Environment
- Food Production and Security
- Health and Wellness



Over the past 20 years, state spending has plummeted and families are paying higher tuition

State Spending Per College Student



If Ohio State and other agriculture colleges can solve nutritional challenges.....



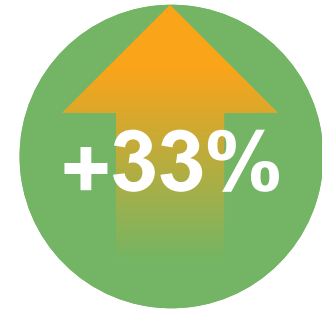
Boost GDP by
11% in Africa
and Asia



Prevent nearly
50% of child
deaths per year



Increase school
attainment by at
least one year



Make children
33% more likely
to escape
poverty as adults



Thank You

Battelle
The Business of Innovation

800.201.2011 | solutions@battelle.org | www.battelle.org