

---

# Additive Manufacturing Blueprints

---

3D Printing: Learning by Building  
2016 Fall

X. Chen; A. Wentworth

# Global Impacts

---



The Economist  
April 2012

# National Impacts

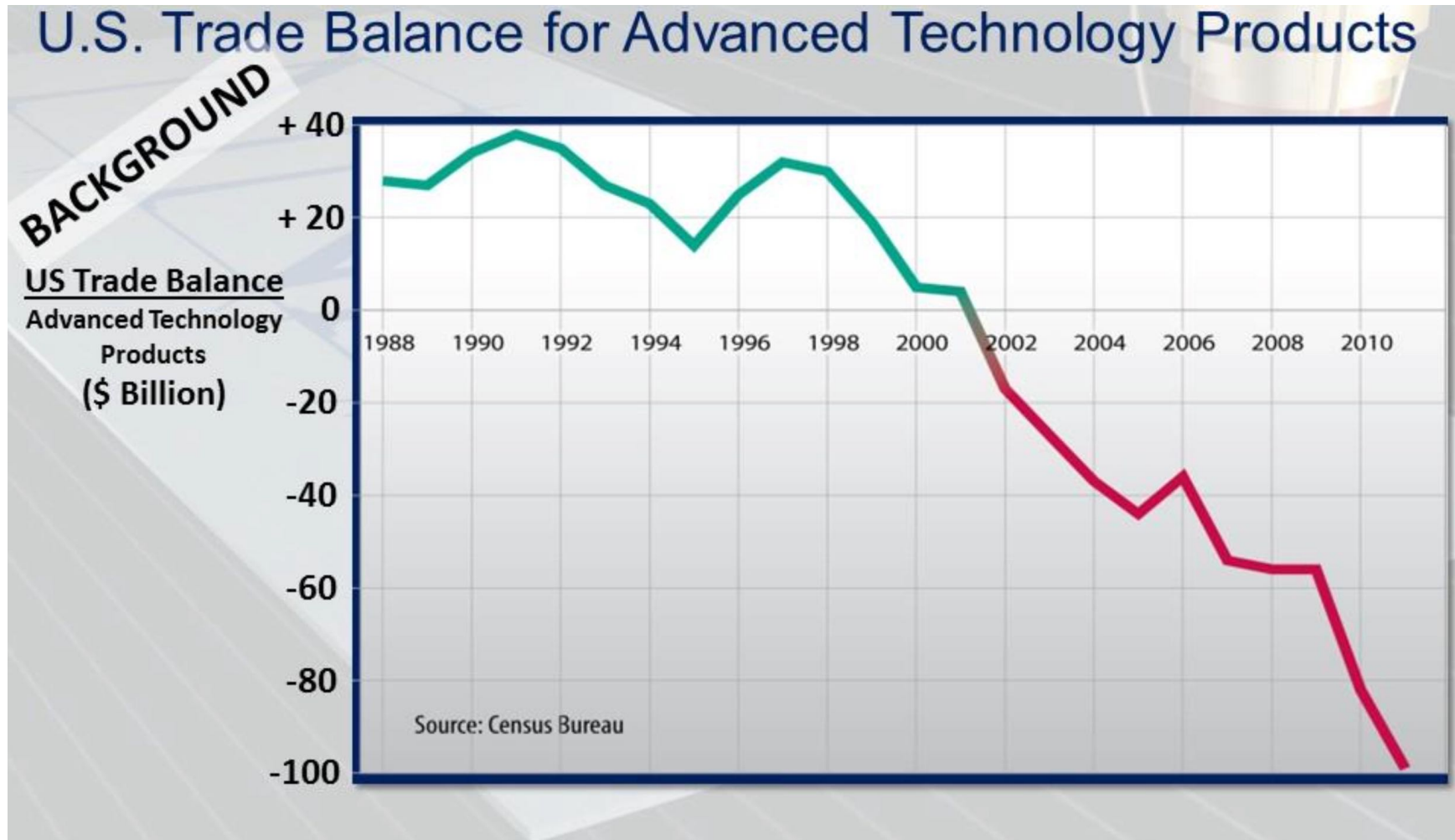
## Manufacturing's Multiplier Effect Is Stronger Than Other Sectors' (Updated April 2014)



Source(s): U.S. Bureau of Economic Analysis, Annual Input-Output Tables



# U.S. losing leadership in manufacturing

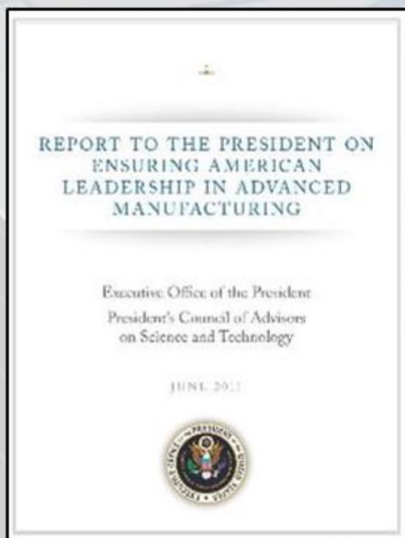


Products invented here, now made elsewhere..

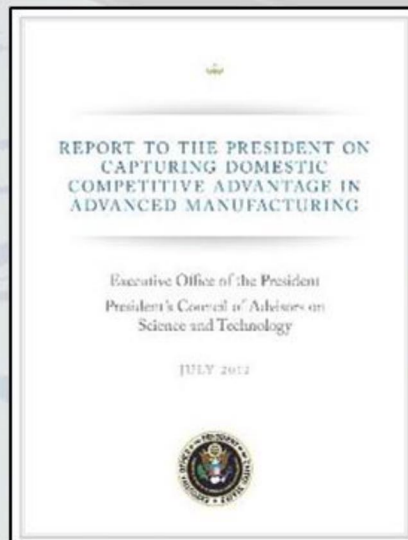
# U.S. Department of Commerce

## PCAST: The independent basis of NNMI

*President's Council of Advisors on Science and Technology*



PCAST 2011  
***Recommends Advanced  
Manufacturing Initiative as national  
innovation policy***



PCAST 2012  
***Recommends Manufacturing  
Innovation Institutes to address  
key market failure***



PCAST 2014  
***Recommends strong, collaborative  
network of Manufacturing  
Innovation Institutes***

# Connecticut's Investments in R&D

---

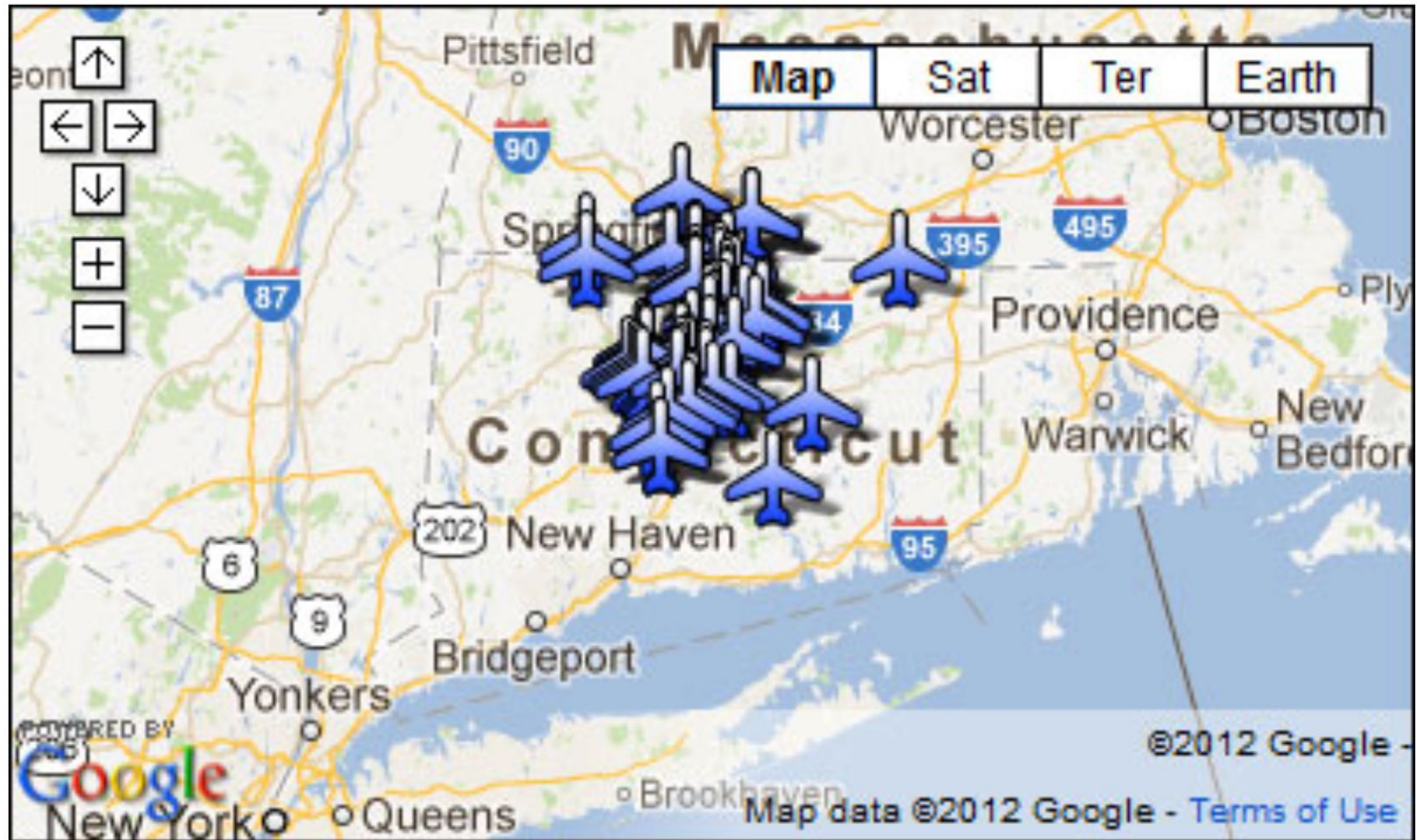
- \$1.55B Next Gen CT Capital Program
- \$137M Increase in Next Gen CT Operating Budget (within 10 years)
- \$864M Bioscience CT Program
- \$1.1B JAX Lab Capital & Research Program
- \$200M CT Bioscience Innovation Fund
- \$172M UConn Tech Park



*"Create jobs, and bring new life to the State's economy"*  
- Dan Malloy, CT Governor

# Aerospace Components Manufacturers

## The ACM Cluster



<http://www.aerospacecomponents.org>

# Next Generation Connecticut

---

- \$1.55B capital investment over 10 years
- \$137M per year operating budget increase by year 10
- Develop *preeminence* in the University of Connecticut's research and innovation programs
- Hire and *support* outstanding faculty
- Train and educate graduates to *meet the future workforce* needs of Connecticut
- Initiate collaborative *partnerships with industries* for R&D and job growth