

# The Materials Genome Initiative

## June 25, 2013

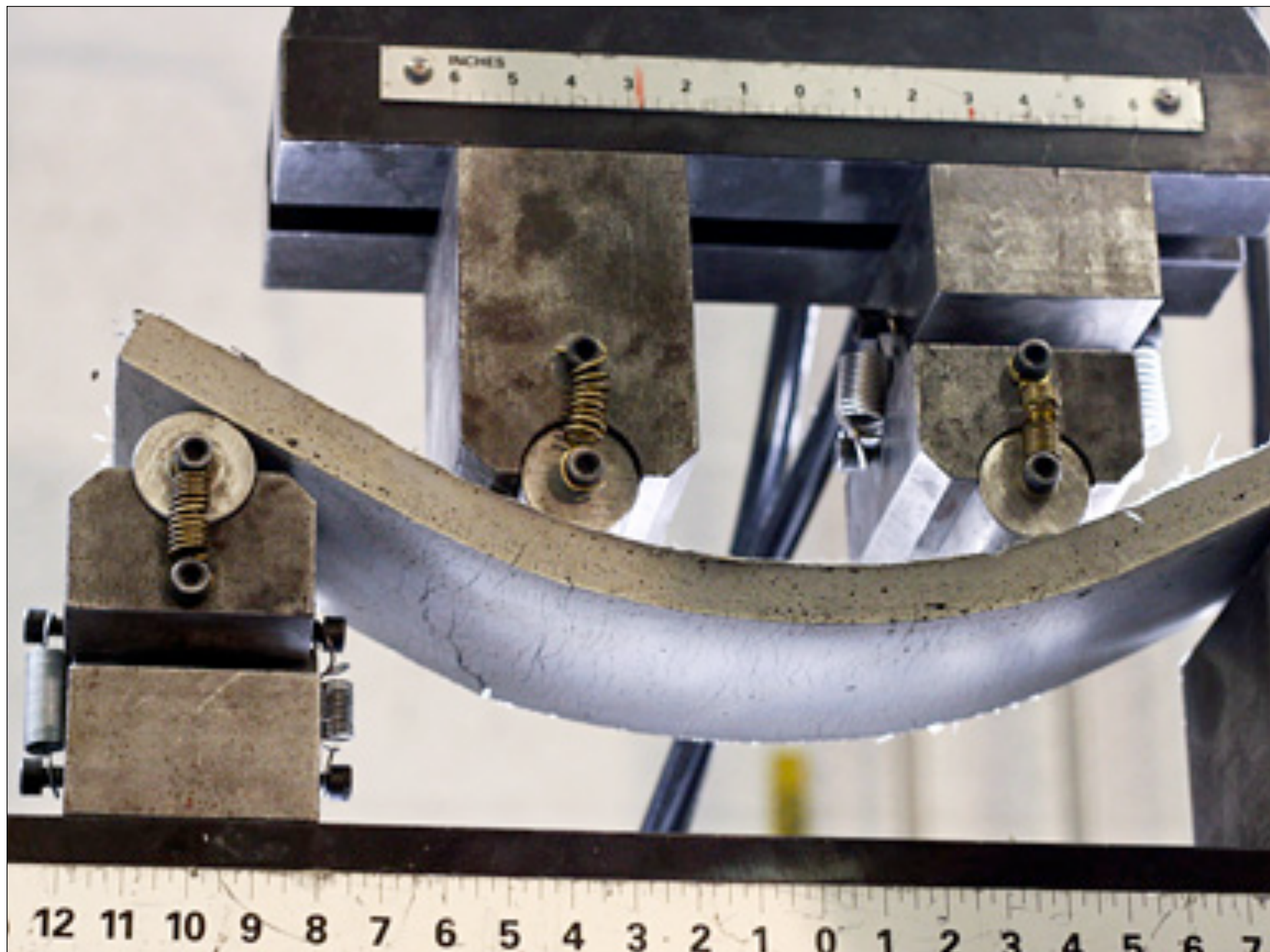


Dr. Cyrus Wadia  
Assistant Director, Clean Energy and Materials R&D  
White House Office of Science and Technology Policy













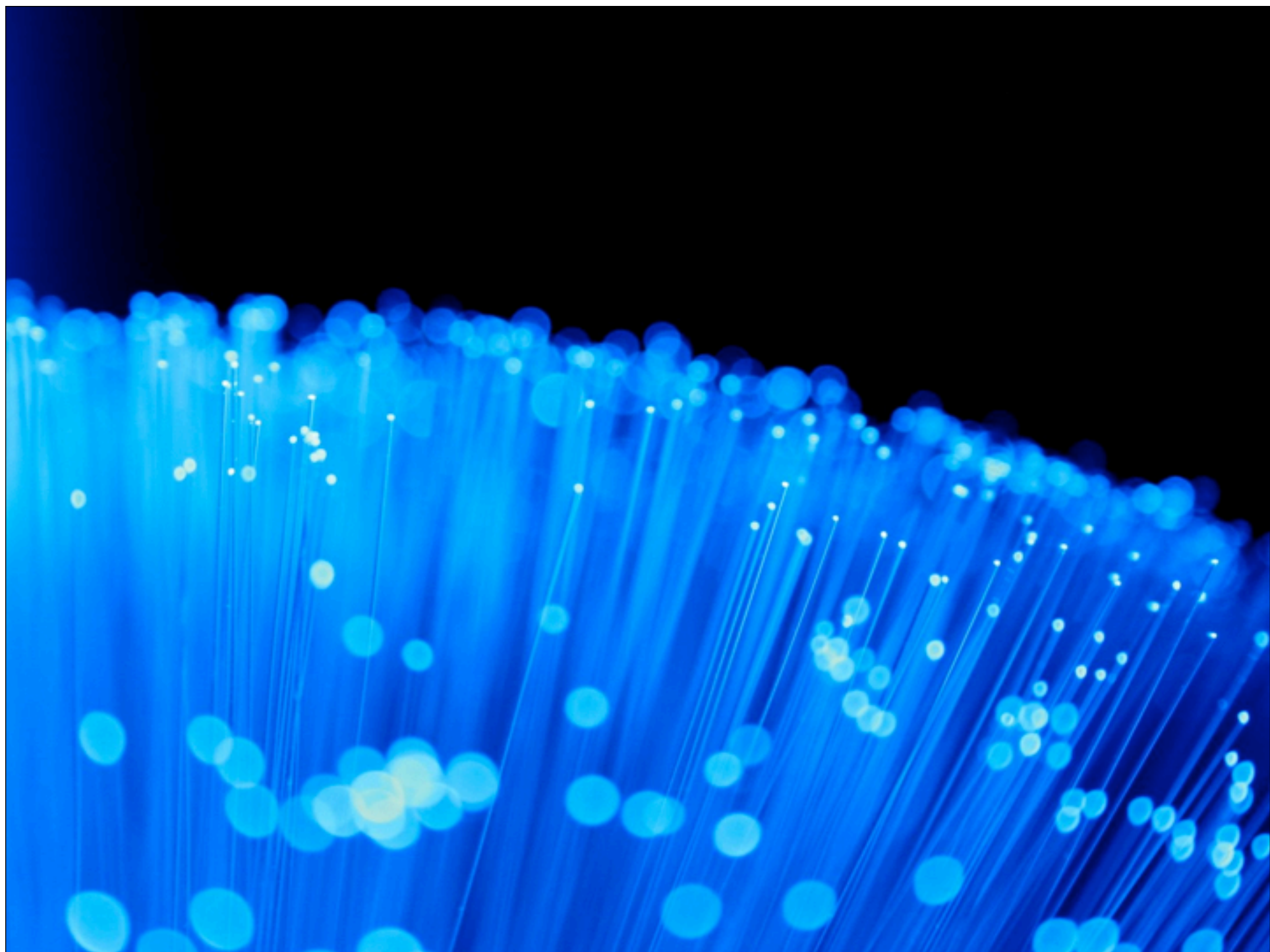














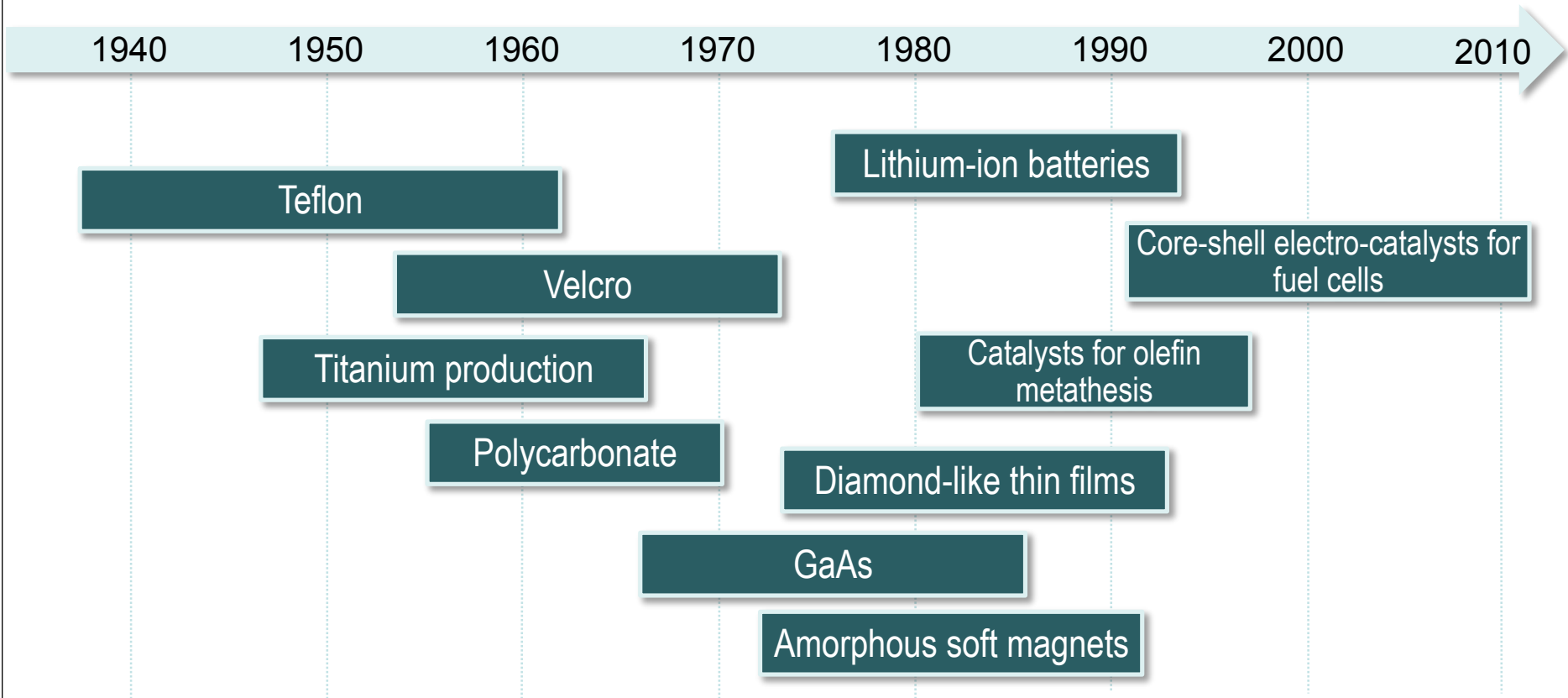








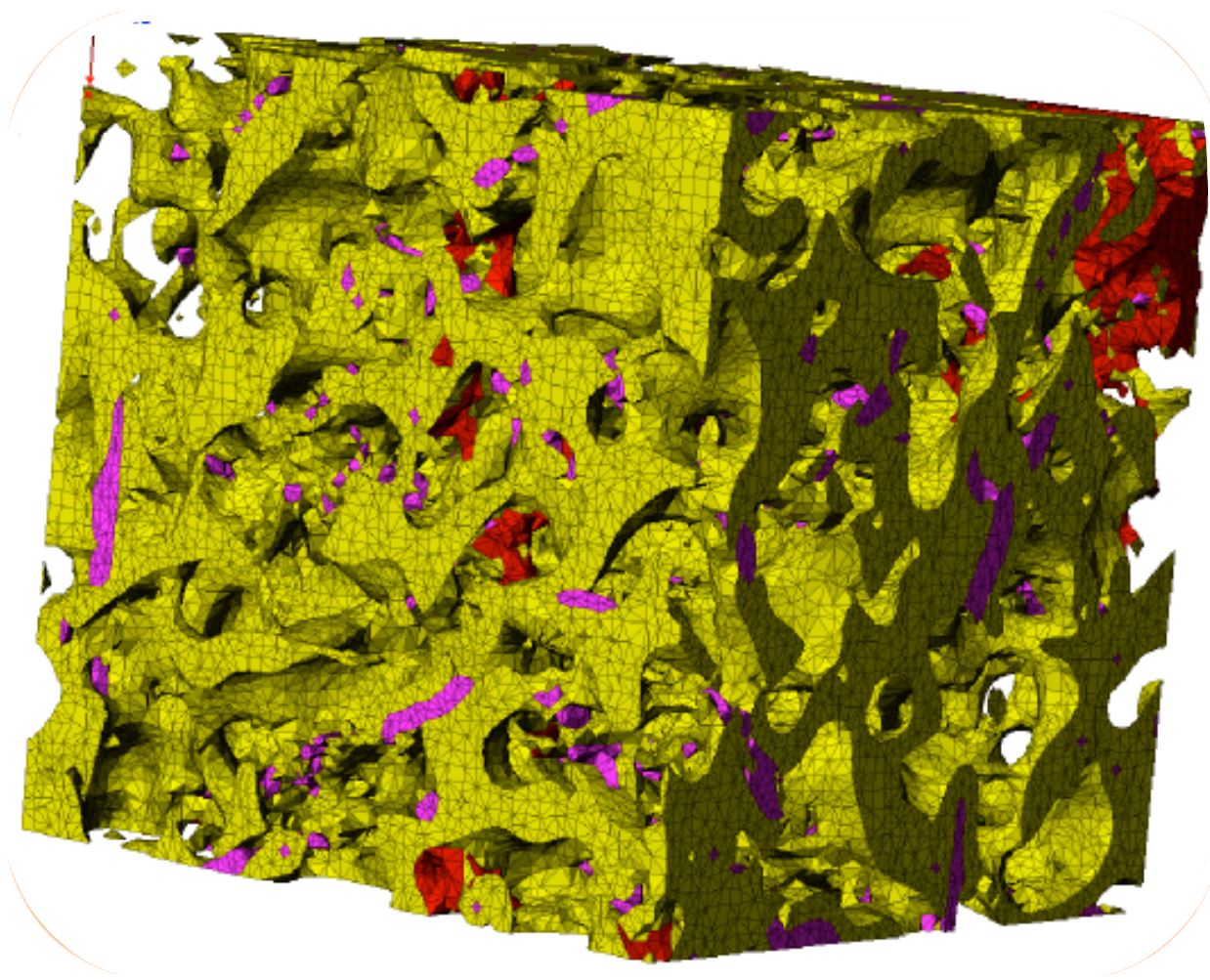
# 20+ Years to Market

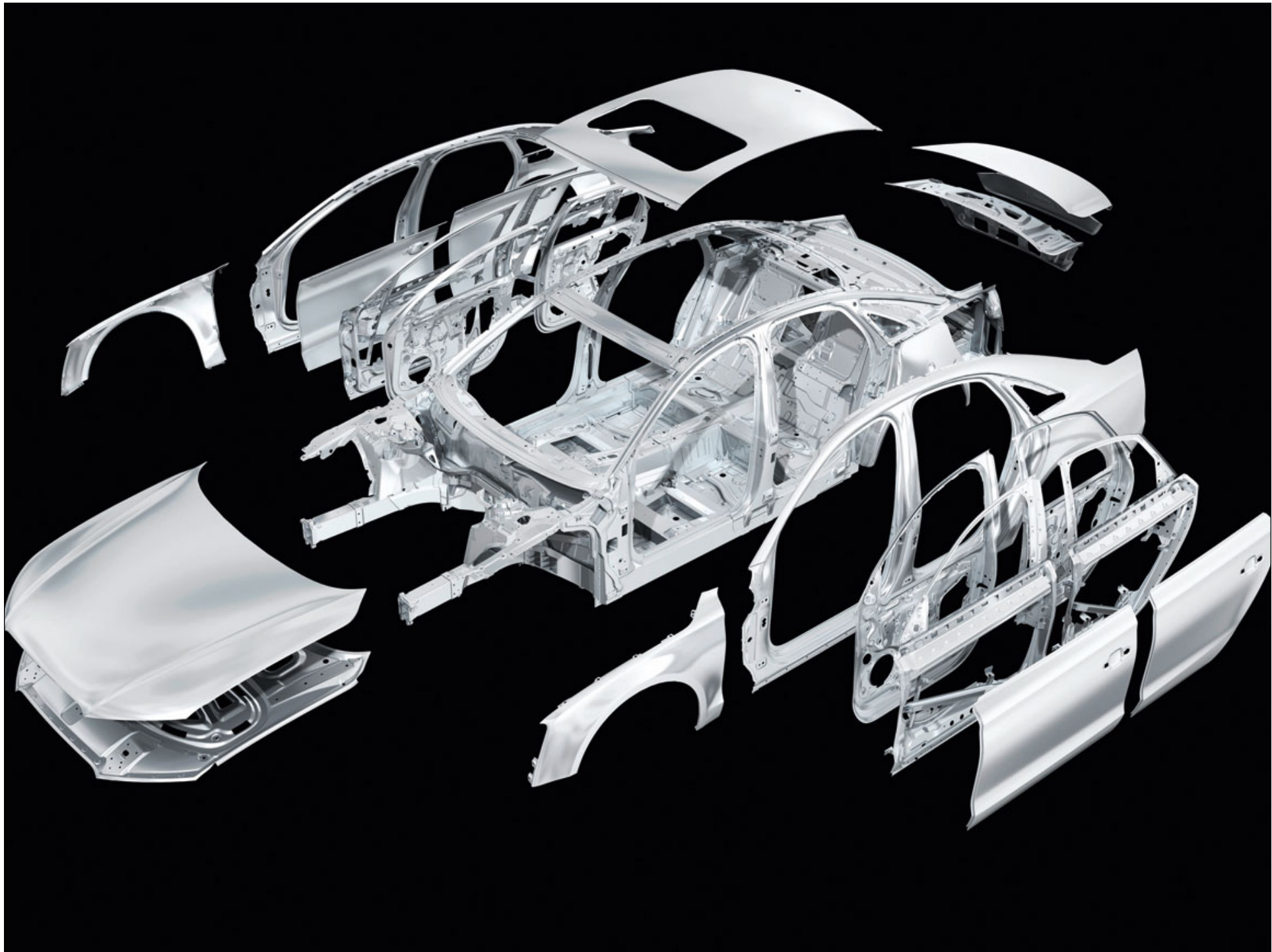


After Gerd Ceder (MIT); materials information from T. W. Eagar and M. King, Technology Review 98 (2), 42 (1995).  
Catalysis information from R. Schrock et al. and R. Adzic et al.














“To help businesses discover, develop, and deploy new materials twice as fast, we’re launching what we call **the Materials Genome Initiative**.

The invention of silicon circuits and lithium ion batteries made computers and iPods and iPads possible, but it took years to get those technologies from the drawing board to the market place. **We can do it faster.**”

-President Obama (6/11)

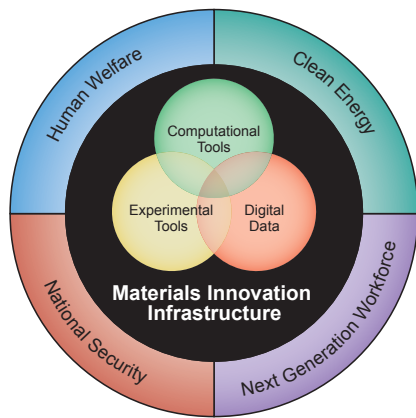


**... 2X faster & 2X cheaper**



# MGI – 2 Core Objectives

## A Unique Challenge for Federal Action



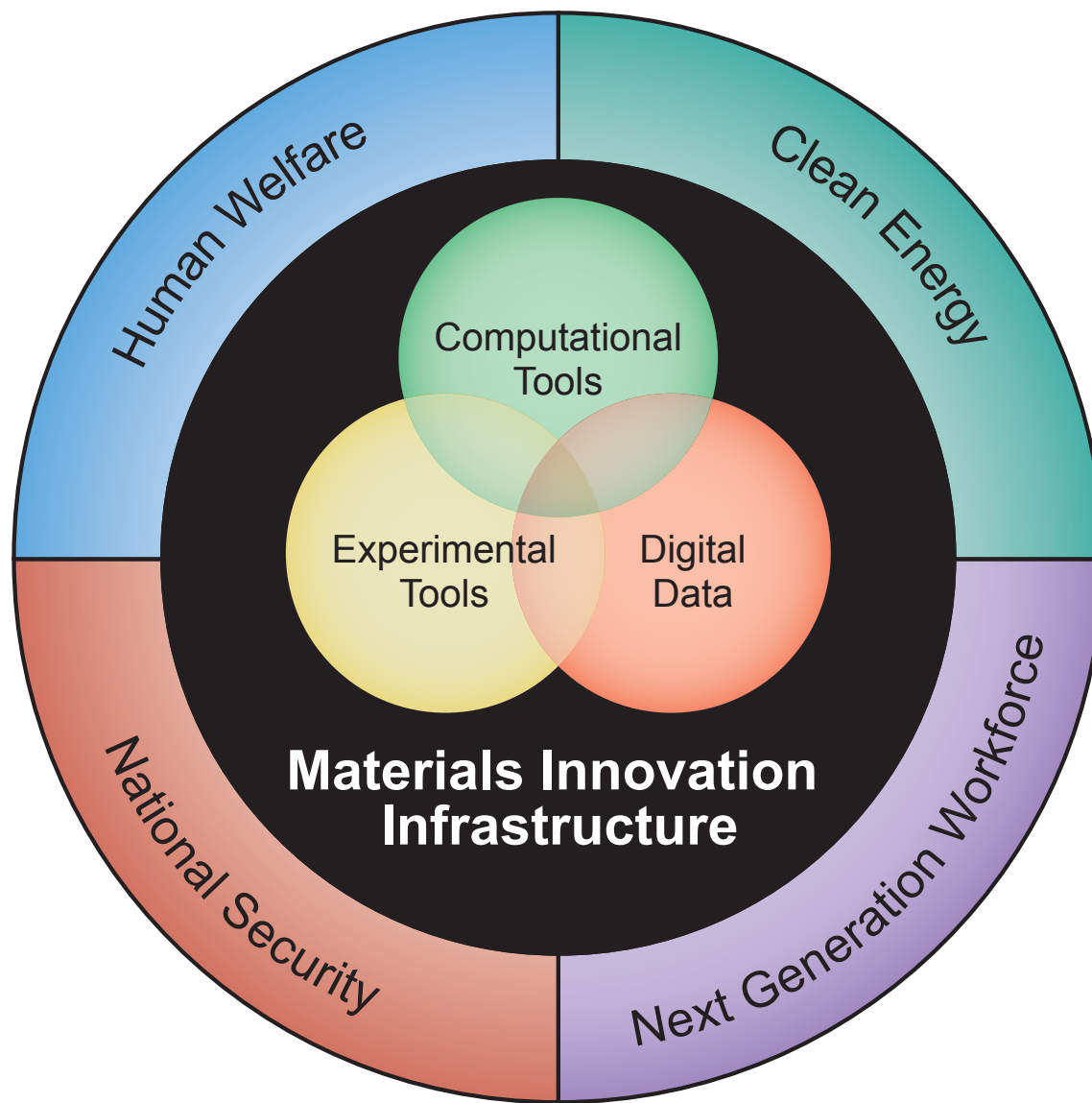
## 1. INFRASTRUCTURE



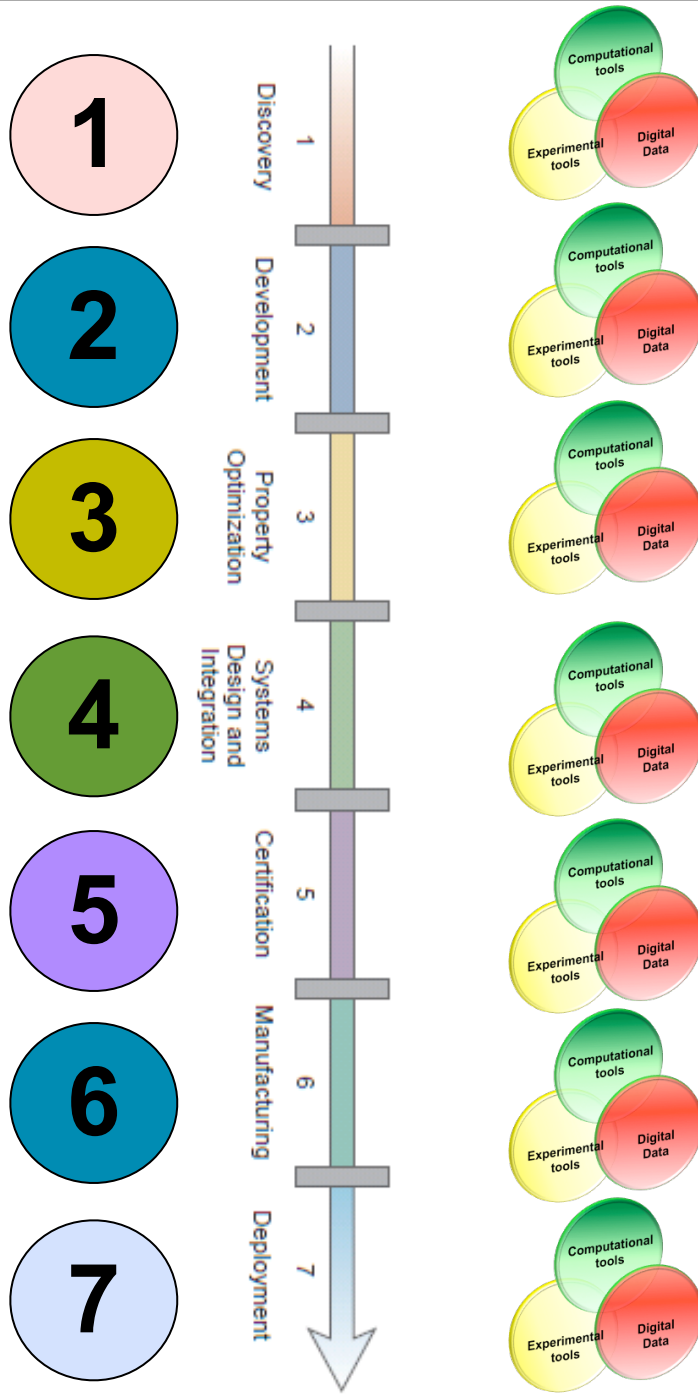
## 2. CULTURE

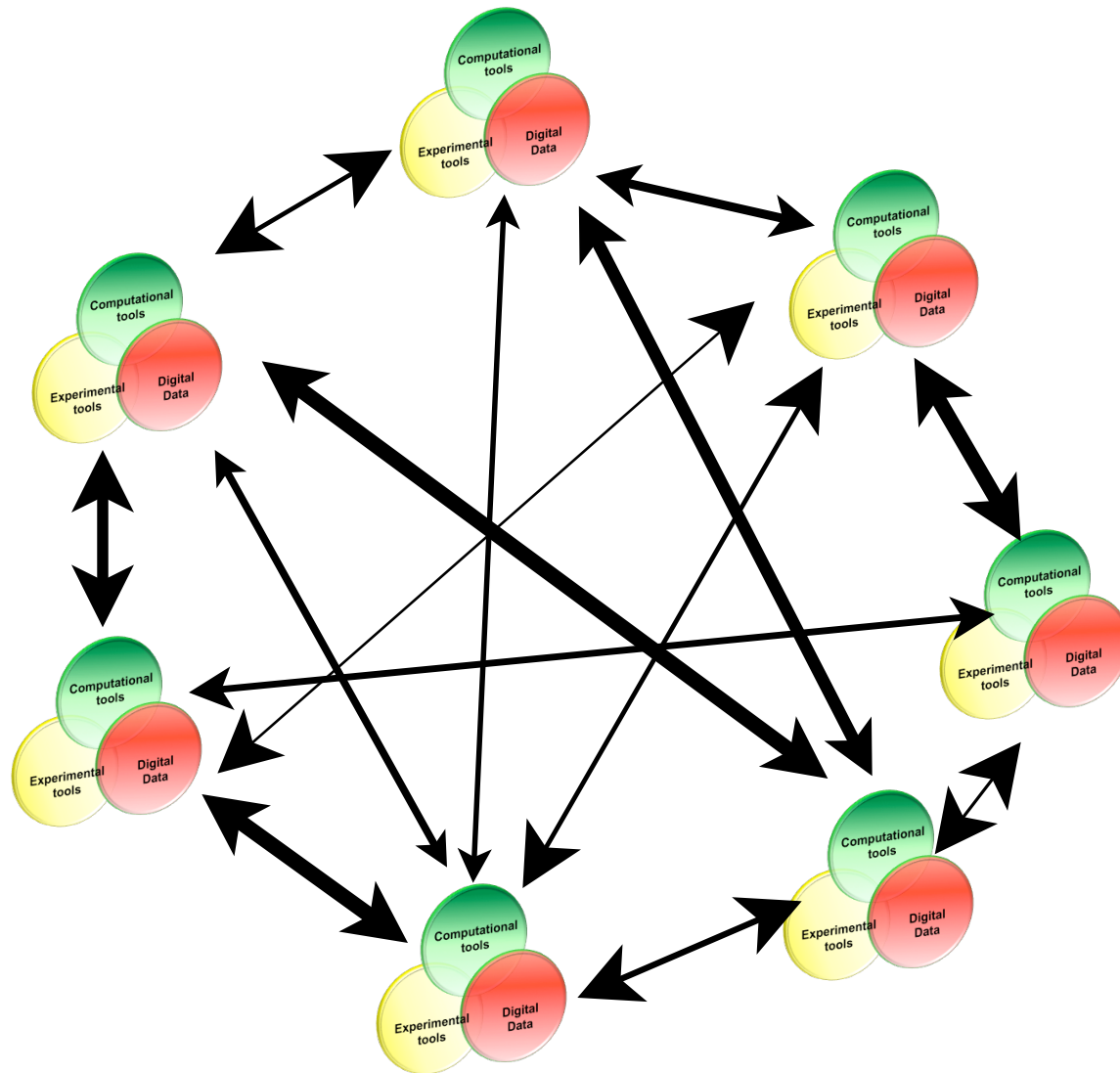


# The Materials Innovation Infrastructure

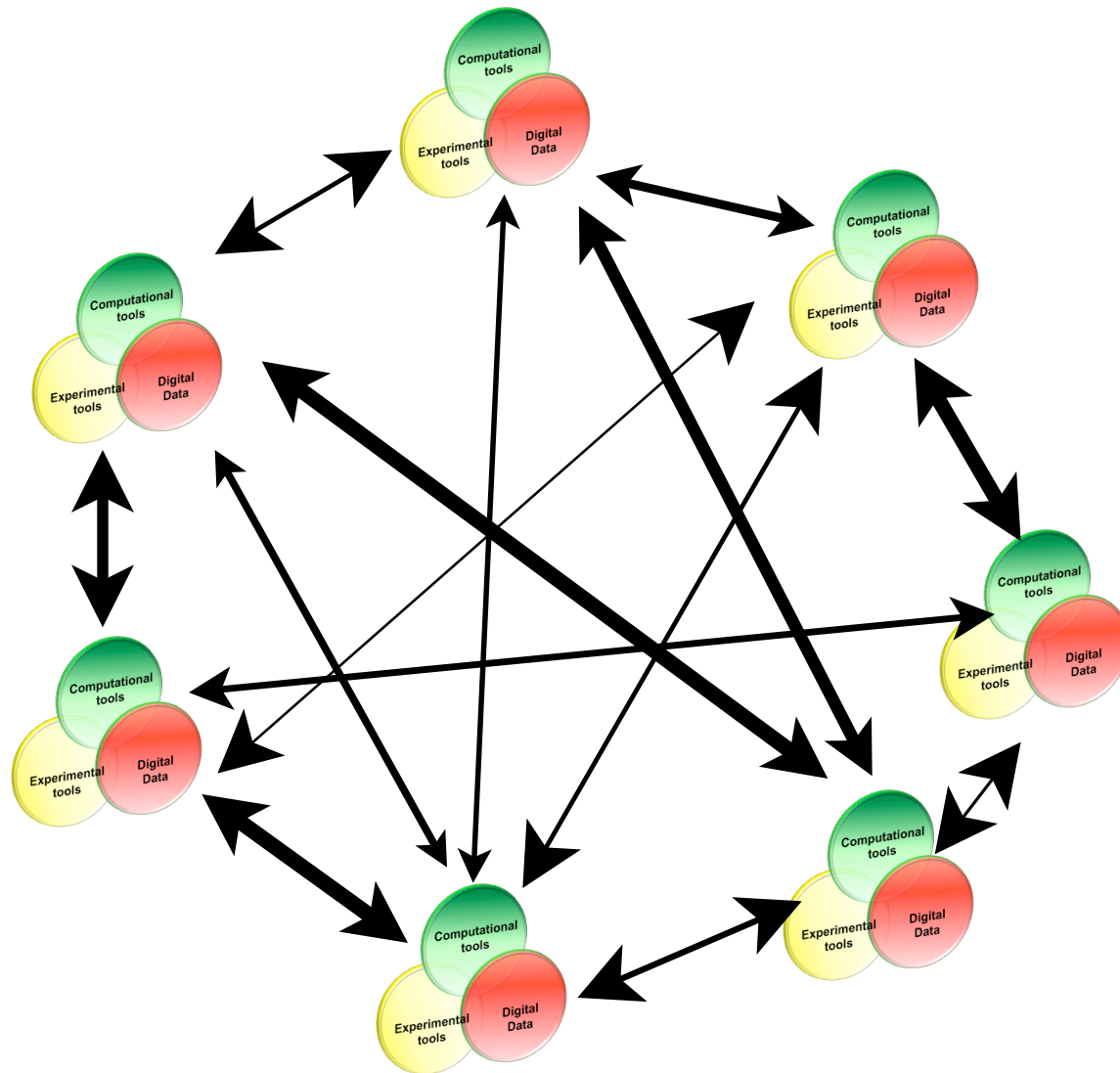


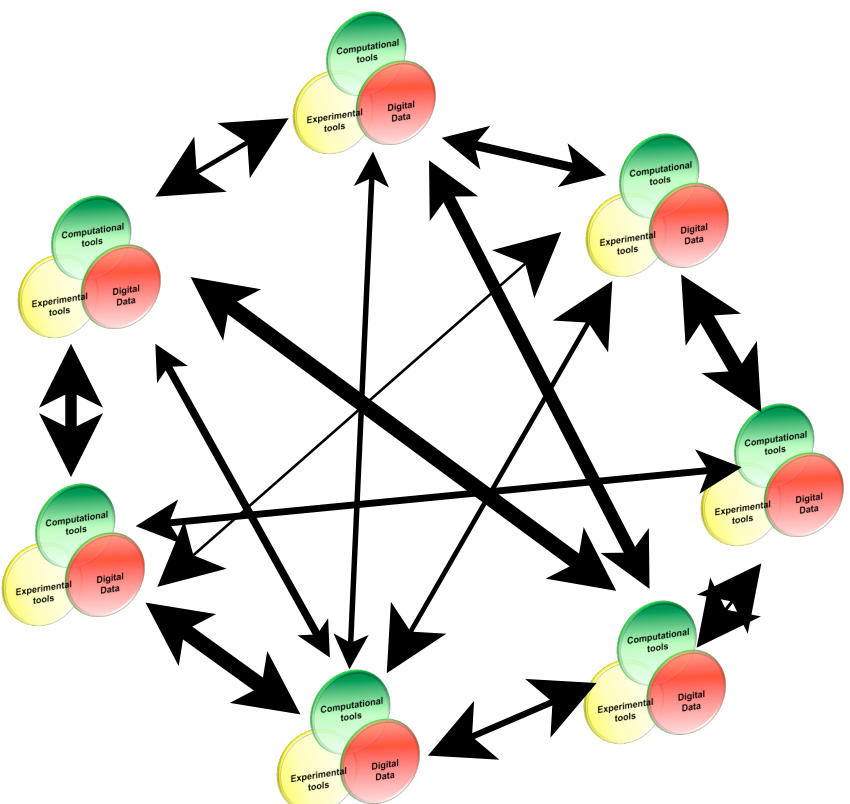
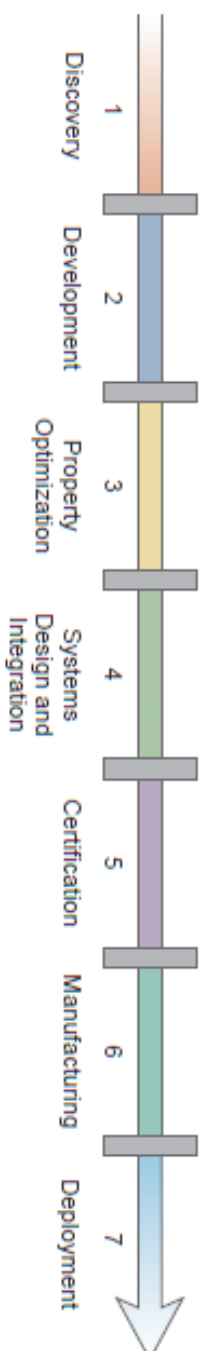






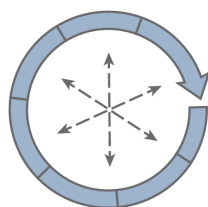






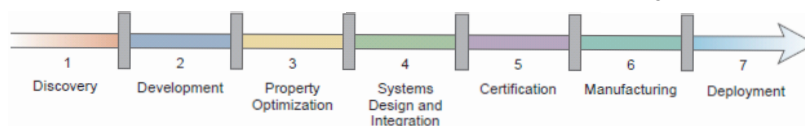


Number of  
New Materials  
to Market



Future Materials Continuum

Materials Continuum Today



Time



# Achieving the Vision

## The Last 2 Years

- \$63M in FY12 (DOE, NSF, DOD, NIST)
- At least \$100M requested in FY13/ FY14
- Leveraging existing investments and building a strong tie-in to other Federal programs (NNI, NNMI, open data)
- Over \$300M in MGI pledges made by over 60 institutions
- Commitments from 30 universities (curricula, degree programs, etc.)
- Chartered a formal NSTC Subcommittee and active coordination
- Multiple stakeholder meetings on MGI (NSF, DOD, NIST, DOE, TMS, MRS)







# News This Week

## Over 24 New Commitments

- NIST Announces \$25M for New Center of Excellence
- NSF/DOE pursuing new modalities for expanding access to user facilities
- Start of a Materials Innovation Accelerator Network
- Harvard/IBM Debut Database of 2.3 Million New Materials
- MRS/TMS Conclude Joint Survey – 74% of Community in Favor of Open Data Access
- ASM/NIST partnering on open data repository pilot
- DARPA, US Army, and NASA Partner on Data Infrastructure
- MIT Announces a MOOC and 7 Other Universities are Improving MGI Education
- 5 Cities Commit to Regional Meetings
- LBNL/Intermolecular form Public Private Collaboration
- Strategic Plan – Next Steps

