



# DIGITAL MANUFACTURING AND DESIGN INNOVATION INSTITUTE

 a **UI LABS** Collaboration

# A MAJOR INITIATIVE



A cooperative agreement between the Digital Lab and the United States Department of Defense (DoD)



The screenshot shows a web browser window displaying the White House Blog. The article title is "Manufacturing Innovation Institutes: Putting America at the Forefront of 21st Century Manufacturing" by Megan Slack, dated February 25, 2014. The article features a photo of President Obama speaking at a podium with a large robotic arm in the background. The text of the article discusses the announcement of two new public-private manufacturing innovation institutes in Chicago and the Detroit area, along with a competition for four additional institutes. A quote from President Obama is included: "For generations of Americans, manufacturing was the ticket to a good, middle-class life. The stuff we made - like steel and cars and planes - is what made America what it is."



<http://goo.gl/yWZ3a>

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# THE PARTNERSHIP

**\$320 MILLION**

\$70 million cooperative agreement with the U.S. DOD and matching \$250 million from industry, academia, government and community partners.

**MORE THAN 315**

Local, regional, and national organizations, community colleges, and MEP networks have committed their support.

**500+**

Supporting companies – including world class leaders in defense and commercial manufacturing industries.

**220,000**

Partners, and more, ready to connect with the more than 185 small and medium sized businesses that have joined already.

**6 OF THE  
TOP 20**

Engineering schools in the country, with more than 12% of all engineering & computer science students graduating annually in the U.S.

**40** Industry partners

**30+** Academia, government, and community partners.

# OVERVIEW

## Create an Innovative Ecosystem

*Increase the innovative capacity of OEMs and their suppliers through digital integration and strategic collaboration.*

## Commercialize Research

*Move ideas from TRL 4-7 through a network of physical and virtual demonstration sites.*

## Strengthen the U.S. Economy

- \$100B in value to OEMs per year
- \$30B in value potential to DoD / year
- 75,000 jobs created in the first 5 years

**A partnership of world-class companies** including:



**Top universities and the world's most powerful computer** including:



**Proven talent** from a consortium of state, educational, and vocational institutions:



# TECHNOLOGY THRUST

## THREE FOCUS AREAS

### ADVANCED MANUFACTURING ENTERPRISE (AME)

Agile and robust manufacturing strategies and integrated capabilities that dramatically reduce the cost and time of producing complex systems and parts.

### INTELLIGENT MACHINING (IM)

Integration of smart sensors and controls to enable equipment to automatically sense and understand current production environment in order to conduct “self-aware manufacturing”.

### ADVANCED ANALYSIS (AA)

Utilization of high performance computing to model materials, products and processes to enable “design with manufacturing in mind”.

## OPEN SOURCE PLATFORM

### DIGITAL COMMONS

An open source technology system across the entire manufacturing value chain.

## HUB & SPOKE MODEL

### NATIONAL NETWORK

A 'hub and spoke' model, where the 'hub' will be the Digital Lab for Manufacturing based in Chicago and the 'spokes' will be all the applied research on the manufacturing floors of our partners across the US.

# BENEFITS OF PARTICIPATION

## COLLABORATION AND RESEARCH DIRECTION SETTING

- Access to cutting-edge, **exclusive research** to drive performance benefits
- **Networking and knowledge sharing** with leading experts
- Federal and partner **matching funds to support research**

## COMPETITIVENESS ENHANCING PERFORMANCE IMPROVEMENTS

- **Lower design costs** through better collaboration with suppliers
- **Lower manufacturing cost and capital requirements** from better optimization of end-to-end product lifecycle
- **Reduced time to market** due to more rapid iteration
- **Next-gen innovations first:** digital design, digital factories, digital supply chains
- **New and legacy products**

## ACCESS TO INTELLECTUAL PROPERTY

- Access to **leading manufacturer partner base** and **technology companies**
- **Internal R&D use and commercialization of IP**
- Ability to iterate on cutting-edge products and services in **live demonstration facility** to show effectiveness to partners

## MORE ROBUST US MANUFACTURING ECOSYSTEM

- **Workforce development** to strengthen the talent pool
- Accelerating broad adoption of technologies, including a **strengthened base of SMEs** able to use digital manufacturing
- Spinoffs and licenses leading to **innovative new technologies**

# PARTNERSHIP TIERS

	ANNUAL INVESTMENT	PROJECT INVESTMENT	BOARD SEAT	TECH SEAT	IP RIGHTS
TIER 1: PREMIER PARTNER	\$400K/YEAR FOR 5 YEARS	\$3M COMMITMENT OVER 5 YEARS	✓	✓	FULL
TIER 2: ELITE PARTNER	\$200K/YEAR FOR 5 YEARS	ENTERPRISE-WIDE, PLUS PER PROJECT OPPORTUNITY	1-2 ELITE PARTNER SEAT ON ROTATIONAL BASIS	✓	ENTERPRISE-WIDE, PLUS PER PROJECT
TIER 3: SME PARTNER	PARTNERSHIP FEE OR IN-KIND OR COST-SHARE FOR PROJECTS	PER PROJECT BASIS	1-2 SME PARTNER SEAT ON ROTATIONAL BASIS	—	PROJECT BASIS
TIER 4: BASIC PARTNER	FREE	—	—	—	—

## FUNDING MATCH & COST SHARE FOR PARTNERS

Upfront commitment of Enterprise-wide project cost share will give you first opportunity to reserve matching support from among a finite pool to be directed to those projects, subject to cost models; note government funding may only be directed to Enterprise-wide Projects

# LEADERSHIP



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