



**What:** Chicago-based UI LABS was **awarded \$70 million from the U.S. Department of Defense** to fund the Digital Lab for Manufacturing (Digital Lab).

Digital manufacturing is the use of an integrated, computer-based system comprised of simulation, three-dimensional (3D) visualization, analytics and various collaboration tools to create product and manufacturing process definitions simultaneously.

The \$70 million cooperative agreement from the U.S. Department of Defense (DoD) will be leveraged by commitments of \$250 million from industry, academia, government and community partners, **forming a \$320 million Institute.**

This investment is part of President Obama's vision to re-invigorate U.S. Manufacturing, creating new jobs and economic development, and spurring future innovation.

**Who:** The **Digital Lab** is an applied research institute that will both develop and demonstrate digital manufacturing technologies and deploy and commercialize these technologies across key manufacturing industries.

**UI LABS** is a Chicago-based research and commercialization collaborative, bringing together industry + universities + government to shape tomorrow's most important business, economic, and cultural challenges.

**UI LABS** brings together 40 industry partners, and 30+ academia, government, and community partners, and an additional 500+ supporting companies and organizations to create the Digital Lab.

Leading **industry partners** include General Electric, Rolls-Royce, Procter & Gamble, Dow, Lockheed Martin, and Siemens.

**University and government partners** are regionally anchored in the Midwest, spanning Illinois, Indiana, Iowa, Wisconsin, Kentucky, Michigan, Minnesota, Missouri, and Nebraska, and extending to Colorado, New York, Oregon and Texas, to leverage the best research and technology in the country and deploy solutions on a broad scale.

**Why:** The **Digital Lab will be the nation's flagship research institute** for Digital Manufacturing and Design Innovation, applying cutting-edge technologies to reduce the time and cost of manufacturing, strengthen the capabilities of the U.S. supply chain, and reduce acquisition costs for DoD.

**Where:** The Digital Lab will be **housed in Chicago with a network of manufacturing partner and research sites across the United States.**

**When:** The grant will be formally **awarded on Tuesday, February 25, 2014, at a White House ceremony.**



## TRANSFORMING AMERICAN MANUFACTURING

- President Obama has launched a National Network for Manufacturing Innovation (NNMI), envisioned to be a network of independent, public-private manufacturing institutes.
- The President has pledged \$1 billion dollars over the course of the next several years to invest in multiple institutes, spurring economic growth, new jobs, and a renaissance in American manufacturing and global competitiveness. He is now urging Congress to pass legislation to fund this initiative.
- The White House will launch each institute following a competitive bidding process, make a substantial federal investment to each institute, and encourage matching investments from industry, academia, and local and state governments.
- The Digital Manufacturing and Design Innovation Institute (DMDI), which will now be known as the Digital Lab for Manufacturing (Digital Lab), will be the nation's flagship research institute for Digital Manufacturing – a world-class, first-of-its-kind manufacturing hub with the capabilities, innovation, and collaboration necessary to transform American manufacturing.
- The Digital Lab will be housed in Chicago with a network of manufacturing partner and research sites across the United States, bringing together 40 industry partners, and 30+ academia, government, and community partners, and an additional 500+ supporting companies and organizations.
- The \$70 million cooperative agreement for the Digital Lab by the United States Department of Defense (DoD) will be matched with \$250 million in contributions from industry, academia, and other private sources, forming the **\$320 million** dollar Institute.
- The Digital Lab will be self-sustaining research institute following the initial 5 year federal investment.

## DIGITAL LAB FOR MANUFACTURING (DIGITAL LAB)

- Digital manufacturing is the application of computing and data analytics to improve manufacturing machines and factories.
- The Digital Lab for Manufacturing (Digital Lab) is an applied research institute that will both develop and demonstrate digital manufacturing technologies and deploy and commercialize these technologies across key manufacturing industries.
- The Digital Lab will be housed in Chicago and connected to a network of manufacturing research sites across the United States. As part of President Obama's investment in U.S. Manufacturing, the Digital Lab will be the nation's flagship research institute in digital manufacturing and design innovation.
- Areas of focus include Advanced Analysis, Intelligent Machining, and "Advanced Manufacturing Enterprise," which are agile and robust manufacturing strategies and integrated capabilities that dramatically reduce the cost and time of producing complex systems and parts.
- This applied research will create thousands of jobs in advanced manufacturing fields and make the U.S. economy more competitive, generating billions of dollars of value to the DoD and U.S. industrial base. Many of these new jobs will require new skills, and the workforce must follow, moving from low-skilled to high-skilled labor. The Digital Lab is a vehicle for workforce development, through partnerships with trade associations, community colleges, and local economic development organizations.



- The Digital Lab will apply cutting edge mobile, cloud, and high-performance computing technologies to the manufacturing challenges of the DoD and industry. By utilizing the Digital Manufacturing Commons (DMC), an open-source online software platform, the Digital Lab will create online networks of people, manufacturing machines, and factories. In turn, this will enable real-time collaboration and analysis of big data during the design and manufacturing processes - reducing the time and cost of manufacturing, strengthen the capabilities of the U.S. supply chain, and reduce acquisition costs for DoD.
- The world's most competitive manufacturing companies have come together to invest in the Digital Lab under the leadership of UI LABS. Key industry investors, including General Electric, Rolls-Royce, Procter & Gamble, Dow, Lockheed Martin, and Siemens, among many others, have partnered with leading universities, local government, and community organizations to launch this \$320 million institute.

## UI LABS

- As a Chicago-based research and commercialization collaborative, UI LABS brings industries, universities and government together to apply real solutions to tomorrow's most important business, economic, and cultural challenges. UI LABS actively cultivates and channels talent and resources, fosters unbiased collaboration to bring new ideas to market, and drives economic growth and competitiveness. UI LABS will house and support the Digital Lab.
  - For **Industry**, UI LABS creates partnerships between industry and leading research universities, with the support of government, for the commercialization of innovative, go-to-market solutions to major business problems.
  - For **Universities**, UI LABS creates partnerships between leading educational institutions and industry, with the support of government, to create the foundation for world-class applied research leadership, new technologies, and economic growth.
  - For **Government**, UI LABS creates partnerships between leading universities and industry to produce new technologies and businesses that stimulate job creation, training, and economic growth for the future.
- UI LABS seeks to create innovative solutions in areas critical to the prosperity of Chicago, Illinois and the Midwest, such as Advanced Manufacturing, Transportation, Healthcare, Food + Agriculture, Energy, and Infrastructure.
- By curating University-Industry partnerships to address grand challenges, UI LABS aims to enhance Illinois and Chicago's competitiveness as a global tech hub and destination for talent.



## DIGITAL LAB PARTNERS

- The Digital Lab includes the participation of world-class technology companies as well as both defense and commercial manufacturers.
  - Next-gen tech companies working alongside 10 of the Top 50 best performing U.S. manufacturers
  - Defense contractors that hold nearly one-third of all DoD contracts awarded in FY12
- Our team boasts the nation's premier engineering schools, one of the world's most powerful supercomputers, and nationally-recognized education and workforce partners.
  - 6 of the top 20 engineering schools in the country
  - More than 12% of all engineering / computer science students graduating annually in the U.S.
- The Digital Lab's partners are regionally anchored in the Midwest, spanning Illinois, Indiana, Iowa, Wisconsin, Kentucky, Michigan, Minnesota, Missouri, and Nebraska. Additionally, the team includes world-class university partners from beyond the Midwest, including Texas, Colorado, New York, and Oregon, to leverage the best research and technology in the country and deploy solutions on a broad scale.
- Our network of local, regional, and national organizations, community colleges, and MEP partners provide connections to over 220,000 small and mid-sized companies.
- A list of industry, academic, and community partners can be found at <http://digitallab.uilabs.org>

## DIGITAL LAB LEADERSHIP

- The Digital Lab is led by Executive Director Dean Bartles, Ph.D., who has 35 years of successful manufacturing operations, program management, marketing, and R&D at leading U.S. Defense firms. Dr. Bartles has spent the past 13 years as VP at General Dynamics - Ordnance and Tactical Systems.
- The Digital Lab's technology leader is Chief Technology Officer William King, Ph.D, a globally recognized leader in manufacturing and design innovation. Dr. King is the College of Engineering Bliss Professor at the University of Illinois Urbana-Champaign, where he leads a research group whose work crosses boundaries between science, technology, and commercialization. Dr. King has been founder, advisor, or director at a dozen early stage technology companies with a focus on manufacturing, materials, and nanotechnology. He is the winner of numerous research awards and was named by *Technology Review Magazine* as a person whose innovations will change the world.

## UI LABS LEADERSHIP

- Caralynn Nowinski, M.D., serves as the Interim Executive Director for UI LABS. In her capacity as the Associate Vice President for Innovation & Economic Development at the University of Illinois, Dr. Nowinski was one of the founders of UI LABS. She offers a unique perspective to the University's and UI LABS' efforts to foster innovation, encourage collaboration, and stimulate Illinois competitiveness, drawing from her past experiences as an entrepreneur, physician and venture capitalist.

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