

Government Current Disruptive Manufacturing Innovations NNMI institutes

2016

1. America Makes

America Makes focuses on helping the United States grow capabilities and strength in 3D printing, also known as additive manufacturing.

Federal partner: Department of Defense

Funding: Federal \$50 million, matching \$55 million

2. Digital Manufacturing and Design Innovation Institute (DMDII)

The DMDII is the nation's flagship research institute for applying cutting-edge digital technologies to reduce the time and cost of manufacturing, strengthen the capabilities of the US supply chain and reduce acquisition costs for the US Department of Defense. Design innovation is the ability to apply these technologies, tools, and products to reimagine the manufacturing process from end to end.

Federal partner: Department of Defense

Funding: Federal \$70 million, matching \$106 million

1. Lightweight Innovations for Tomorrow

The center will speed development of new lightweight metal manufacturing processes from laboratories to factories for products using lightweight metals, including aluminum, magnesium, titanium, and advanced high-strength steel alloys.

Federal partner: Department of Defense

Funding: Federal \$70 million, matching \$78 million

2. Power America

Large-scale production of wide bandgap (WBG) semiconductors, which allow electronic components to be smaller, faster, and more efficient than semiconductors made from silicon. WBG semiconductor technology has the potential to reshape the American energy economy by increasing efficiency in everything that uses a semiconductor, from industrial motors and household appliances to military satellites.

Federal partner: Department of Energy

Funding: Federal \$70 million, matching \$70 million

3. The Institute of Advanced Composites Manufacturing Innovation (IACMI)

Researchers at IACMI develop lower-cost, higher-speed, and more-efficient manufacturing and recycling processes for fiber-reinforced polymer composites. Bringing these materials down the cost curve can enable their use for a broader range of products including lightweight vehicles with record-breaking fuel economy; lighter and longer wind turbine blades; high-pressure tanks for natural gas-fueled cars; and lighter, more-efficient industrial equipment.

Federal partner: Department of Energy

Funding: Federal \$70 million, matching \$180 million

4. **Manufacturing Innovation Institute for Integrated Photonics**

Integrated photonic components can pack even more processing power into a single chip, creating new possibilities for computing and telecommunications. An emerging technology for carrying light-waves, integrated photonics has the potential to revolutionize entire industries from increasing the carrying capacity of broadband communications ten-fold, to creating needle-free tests for common conditions like diabetes, and to improving imaging capabilities in defense operations.

Federal partner: Department of Defense

Funding: \$110 million, matching \$500 million+

5. **Flexible Hybrid Electronics Manufacturing Institute**

Flexible hybrid electronics manufacturing describes creating sensors and electronic devices on flexible, stretchable substrates. The potential array of products range from wearable devices to improved medical health monitoring technologies.

Federal partner: Department of Defense

Funding: Federal \$75 million, matching \$90 million+

- See more at: http://blogs.infor.com/manufacturing_matters/2016/01/looking-for-innovation-trends-in-manufacturing-follow-the-money.html#sthash.A81EiilE.dpuf