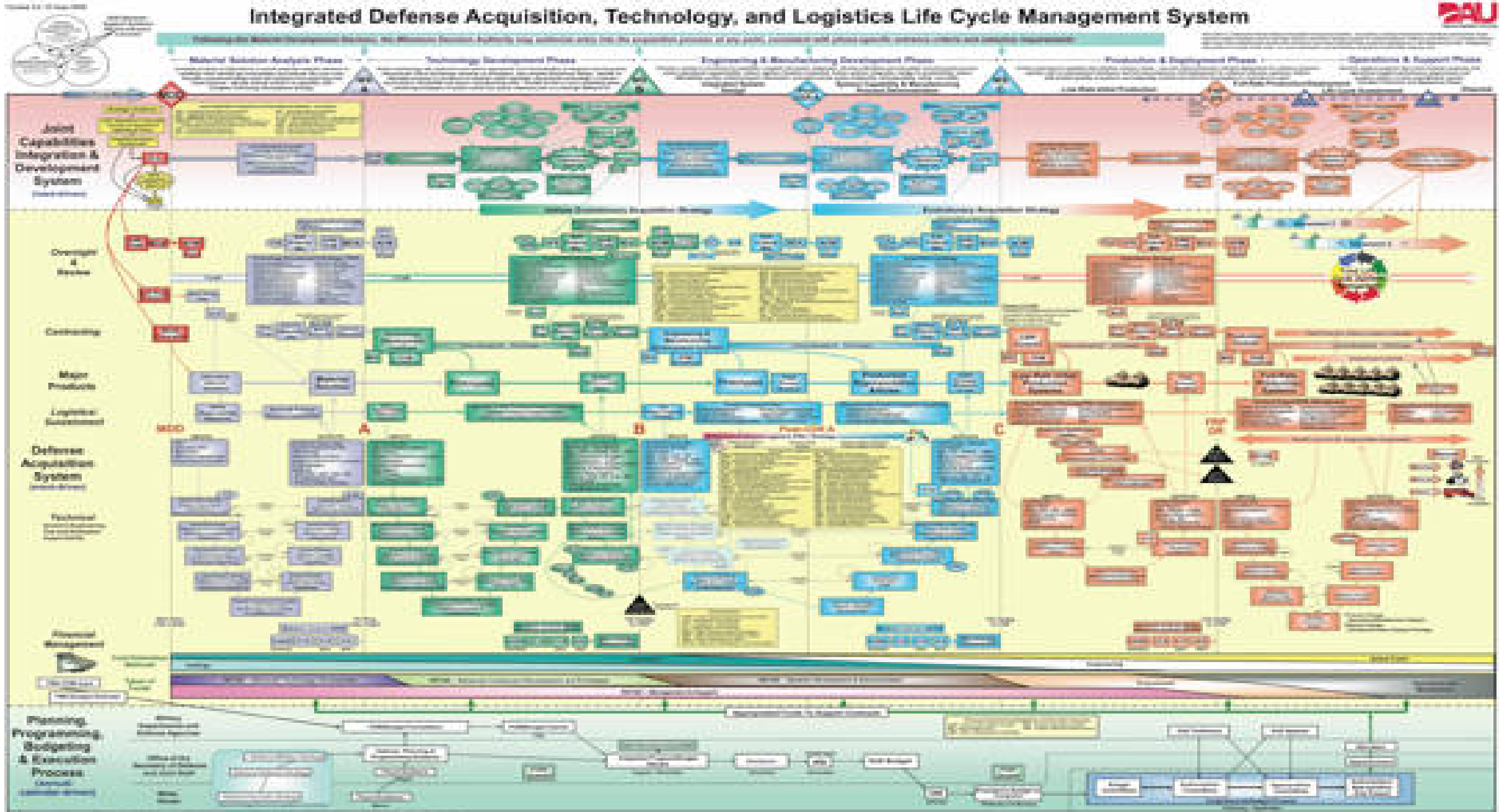# Integrated Defense Acquisition, Technology, and Logistics Life Cycle Management System

Changes to DoD and Agency Acquisition Processes to Accelerate Integration of Innovative Technologies

- Increased use of OTA (Other Transactional Authority)
- Expansion of focused acquisition elements (DIUx, HSIP, SVIP, CEED)
- Development of CSO (Commercial Solutions Opening)
- Homeland Security OTS (Other Transaction Solicitation)
- Small Business Innovative Research Program (SBIR) process changes
- Partner with non-profit organizations/consortiums for conventions/expos (TechConnect)

Organizational Changes to Accelerate Integration of Innovative Technologies

Defense Innovation Unit Experimental (DIUx)
- https://diux.mil/work-with-us/companies

National Security Technology Accelerator (NSTxL)
http://nstxl.org/

Homeland Security Innovation Program (HSIP)
begat Silicon Valley Innovation Program (SVIP)
https://www.dhs.gov/science-and-technology/hsip

IoT M2M Network Testbed Implementation support services
Solicitation Number: SB134117RQ0664
Agency: Department of Commerce
Office: National Institute of Standards and Technology (NIST)
Location: Acquisition Management Division

The Advanced Network Technology Division (ANTD) at the National Institute of Standards and Technology (NIST) is currently working on developing a wireless network for wide area measurement in power grid monitoring systems. So far, much of our effort has been concentrated on implementing a combined grid-communication network testbed based on an emulation platform using sensory devices, including commercial Phasor Measurement Units (PMUs), at the application layer. The next step is to extend the testbed by developing a wireless network infrastructure that is based on emerging wireless access technologies, such as Narrow-Band Internet of Things (NB-IoT) and IEEE 802.11ah. The main objective is to implement an Machine to Machine (M2M) communication network that can support wide ranging sensory data.

Hybrid Reality (HR), Augmented Reality (AR), Virtual Reality (VR), and Mixed Reality (MR) based operations, training, engineering design/analysis, analogs, and human health in space

Solicitation Number: 80JSC018HRARVRMR

Agency: National Aeronautics and Space Administration

Office: Johnson Space Center

Location: Mail Code: BH

NASA JSC seeks to advance Digitally Based Immersive Systems (DBIS) that include Hybrid Reality (HR), Augmented Reality (AR), Virtual Reality (VR), and Mixed Reality (MR) systems to support human spaceflight activities related to operations, training, engineering design/analysis, analogs, and human health in space. Astronauts, ground support personnel, engineers, and scientists require tools that allow them to carry out these activities, while helping to reduce schedules, risks, costs, and in some instances provide capabilities not currently available to them. DBIS how been shown to be very useful in these application areas. Additionally, some DBIS also incorporate sound, haptics, and other sensory information to further augment the realism and immersion provided. As DBIS replace physical mockups for some activities and electronic procedures replace paper checklists for others, there is an opportunity for a wide assortment of DBIS technologies to help support human spaceflight.

Technology:
Specific domain expertise and interest areas include:
● DBIS technologies combined with electronic procedures, and spatially tracked: 3D printed tools, real" physical tools, and other objects;
● Electronic procedures authoring tools for training and performance support;
● Use of DBIS and procedure assistant for Just-In-Time Training (JITT), operations, training, engineering design/analysis, analogs, and human health activities;
● DBIS architecture development for distributed computing paradigms;
● Inside-out (e.g. machine vision) and outside-in (e.g. lighthouse) tracking for object/human tracking and registration
● Radio Frequency Identification (RFID) localization and logistics management;
● Wearable computing (e.g. gloves) and sensor fusion technology for Automation and Robotics (A&R)
● DBIS interactive control of virtual and real objects with gesture, voice, haptics, and other methods; and
● Use of Biometric data to support DBIS and electronic procedures post test data analysis

**Medical Technology Innovation for Rehabilitation Medicine in the
Military Health System**
Solicitation Number: W911QY-17-T-0019
Agency: Department of the Army
Office: Army Contracting Command
Location: ACC - APG (W911QY) Natick (SPS)

The specific focus of this project is to assess the value (diagnostic, interventional, and therapeutic) of various technologies that improve and enhance delivery of rehabilitation services related to musculoskeletal pain and injuries, which are the #1 cause of attrition and missed duty days in military service members. The length of service is a total of 12 months from award.