Modeling Simulation & Training (MS&T)

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• Affiliated Member of the Governor Ron DeSantis Florida Defense Alliance Working Group

3rd Quarter 2019
Agenda

Florida & DoD

Team Orlando

Modeling, Simulation, and Training (MS&T)

Three Challenges

Florida

Defense

MS&T

Team Orlando

Saving Time

Saving Money

Saving Lives

Pic Credit: Enterprise Florida

Pic Credit: PEO STRI
Aviation & Space Cluster
(370 Aviation Companies)

Growth Industries

Patent Trademark Serial Number 87576978
Downtown Orlando
Creative Village
(Digital Media)
Growth Industries

Entertainment
(Tourism & Conference Space)
Life Sciences & Medical
(742 Companies)
Medical City, Robotic Surgery, & Veterans Administration
(Lake Nona & Celebrations, Florida)
Growth Industries

NEOCity - Florida Advanced Manufacturing Research Center (Wafers, Chips, & Sensors)
Optics & Photonics
(Avg. Salary $100,085)

Companies
American Photonics
BEAM
Control Laser Corporation
E.R. Precision Optical Corporation
Gooch and Housego
Lee Laser
LightPath Technologies
Naked Optics
Ocean Optics
OptiGrate
Optonetic
Pangolin Laser Systems
Photon-X
SemiConductor Devices USA
Triple Play Communications

Associations and Institutes
Florida Manufacturing Extension Partnership
Florida Photonics Cluster
Institute of Electrical and Electronics Engineers (Local Chapters)
International Society for Optical Engineering
Laser Institute of America
Open Photonics Accelerator
Optical Society of America
Society for Information Display (Local Chapter)
UCF College of Optics and Photonics Center for Research and Education in Optics and Lasers (CREOL)

Related Degree Programs
UCF College of Optics and Photonics
USF Physics Department
UF Department of Electrical and Computer Engineering
Growth Industries

Companies
EA SPORTS
Firebrand Games
Florida Digital Studios
GameSim Inc.
Ignous Games
Trendy Entertainment
Two Door FX
XOS Digital

Associations and Institutes
Film Florida
Orlando Game Space
Indienomicon
International Game Developers Association (Local Chapters)
UCF Center for Research and Education in Arts, Technology and Entertainment

Gamification & Digital Media
(Program & Talent Management)

Related Degree Programs
UCF Florida Interactive Entertainment Academy
USF College of The Arts
UF Digital Worlds Institute
Digital Animation & Visual Effects School
Full Sail University
Ringling College of Art and Design
EA Sports (Talent Management)

- Anti-Terrorism
- Artificial Intelligence
- Augmented Reality
- Broadcasting
- Cooking
- Cloud Computing
- Cyber
- Data Analytics
- Data Mining
- Gamification
- Math / Physics
- Networking
- Program Management
- Programming
- Public Affairs
- Social Media
- Streaming
- Video Production
- Virtual Reality
- Concert Promotions (E-Sports Arenas)
Department of Defense Bases, Agencies, & Headquarters

**Department of Defense Bases, Agencies, & Headquarters**

**NAS PENSACOLA**
Provider aviation flight and maintenance training for Navy, Marines, Air Force, and Coast Guard.
- **Key Organizations:** Naval Education and Training Command
  - Naval Air Technical Training Center

**NAS WHITING FIELD**
Multi-service primary fixed-wing training and advanced helicopter pilot training.
- **Key Organizations:** Navy Reserve Warfighting Center Panama City
  - Center for Explosive Ordnance Disposal and Diving

**CORRY STATION**
Cyber warfare and intelligence training.
- **Key Organizations:** Navy Surface Warfare Center Panama City Division
  - Naval Training and Support Center
  - Center for Explosive Ordnance Disposal and Diving

**NAS JACKSONVILLE**
A naval air and industrial base supporting anti-submarine warfare and aviation training.
- **Key Organizations:** Navy Region SE Headquarters
  - Fleet Readiness Center SE
  - Naval Facilities Engineering Command SE
  - Naval Reconnaissance

**NS MAYPORT**
Fleet docking and support.
- **Key Organizations:** US Fourth Fleet
  - Helicopter Strike Wing, Atlantic

**SAUFLEY FIELD**
Navy education.
- **Key Organizations:** Air Force Special Operations Command
  - 3rd Special Operations Wing

**HURLBURT FIELD**
Supports global special operations missions.
- **Key Organizations:** Airborne Operations Center
  - Joint Special Operations Group
  - 1st Special Operations Wing

**EGLIN AFB**
Supports development, acquisition, testing, procurement, and deployment of all air-delivered weapons.
- **Key Organizations:** Air Force Research Laboratory
  - Space Operations Center

**TYNDALL AFB**
Advanced training for pilots, air traffic controllers.
- **Key Organizations:** Air Force Operations
  - 46th Air Air Warfare Center

**MACDILL AFB**
United States command for MacDill Base.
- **Key Organizations:** US Special Operations Command
  - Navy Special Operations Command
  - Special Operations Command

**US CENTRAL COMMAND**
United States command for CENTCOM.
- **Key Organizations:** US Special Operations Command
  - Joint Interagency Task Force South

**NAS KEY WEST**
The Navy's premier pilot training facility for transient tactical aviation squadrons.
- **Key Organizations:** Naval Aviation Pilot Training Facility
  - Joint Interagency Task Force South

**Jacksonville Range Complex**
150,000 square miles of air, surface, and subsurface operational area, strategically located in Florida's near coastal waters, supporting all services and integrating six instrumented ranges. Warm waters, temperate climate, lower sea states, and shore proximity make JRC the ideal training venue.

**CAMP BLANDING**
Florida National Guard training base.
- **Key Organizations:** USMC Support Facility Bliount Island
  - Marine Prepositioning Force, Seabase Logistics

**PIE PINECONE BOMBING RANGE**
Home to the 3rd Bomb Wing.
- **Key Organizations:** Cape Canaveral AFS
  - Launch Complexes

**USMC SUPPORT FACILITY BLIOUT ISLAND**
Maritime Prepositioning Force, Seabase Logistics.
- **Key Organizations:** CAPABILITIES
  - 45th Space Wing

**NAVAL SUPPORT ACTIVITY ORLANDO - MULTI-SERVICE MODELING, SIMULATION AND TRAINING ACQUISITION**
- **Key Organizations:** Naval Air Warfare Center
  - Training Systems Division
  - Program Manager for Training Systems, Marine Corps

**PINECONE BOMBING RANGE**
Home to the 3rd Bomb Wing.
- **Key Organizations:** Cape Canaveral AFS
  - Launch Complexes

**US SOUTHERN COMMAND**
United States command for Central and South America and the Caribbean.
- **Key Organizations:** Homestead Air Reserve Base
  - United States Air Reserve Base

**Avon Park Air Force Range**
Air-to-ground and ground training range.
- **Key Organizations:** United States Air Reserve Base
  - United States Air Reserve Base

**Homestead Air Reserve Base**
Provides combat airpower, combat support forces, and humanitarian support.
- **Key Organizations:** United States Air Reserve Base
  - Naval Support Activity Orlando

**Joint Gulf Range Complex**
A critical strategic advantage in Florida is the Joint Gulf Range Complex. This encompasses 100,000 square miles of DoD controlled airspace over the Gulf of Mexico. Florida's training area also contains multiple live-fire bombing ranges, including PINECONE BOMBING RANGE and the EGLIN BOMBING RANGE. This integrated part of DoD's Training Resources Strategy allows for joint maritime, air, and land training exercises.

**$75B - $80B**
Annually
Team Orlando Industry and Government

Industry Resources

Team Orlando Personnel

DoD Personnel: 1605
Civil Servants: 1473
Military: 132

Funding Profile

$4.5 to $6 Billion Since Late 1990’s

Journeyman Salary GS-13 Step 10 Is ($115,313)
Army and Navy partnership in developing training systems was originally signed back in March of 1950. One of the longest lasting Memorandums of Agreements in DoD, 67 years and counting.
Growth Industries
WHAT  Modeling, Simulation, & Training (MST)

WHY  Time, Money, & Lives (TML)

HOW  Training Aids, Devices, Simulations, and Simulators (TADSS)

Circa 1934
Blended Simulation is an approach to learning which harnesses the best of all types of learning into a “Blended” approach.
Augmented Reality – Prepare – Rehearse – Operate - Translate – Leverage AI – Train
The gold standard for the simulation industry is “transfer”. Transfer is defined as “the ability to take material learned in training and apply it to dynamic situations outside of the training environment”.
Immersive Learning: To physically, mentally and emotionally engage the users in an environment so that what is learned is salient and can be activated when needed in a training or operational environment.

Ref: STRICOM After Next: A concept briefing for accessing and integrating Training Aids Devices Simulations & Simulators (TADSS) over the Internet, Finkelstein, 1999
However, the message has been the same...

Sesame Street started in 1971 with the premise that if you could hold a Child's ATTENTION you could TEACH them something.

Sesame Street
Jim Henson Founder

Pic Credit: Sesame Street
Train faster

Train more

Train more and faster

Degree of Learning

Fully trained

New recruit

Time to Train

Ideal Modeling and Simulation Response
The challenge: When do you make that acquisition buy?

“Don’t skate to where the puck is, skate to where the puck is going.”

The Great One, Wayne Gretsky

REF: Adapted From Talk By Eric Schmidt Executive Chairman of Google
Challenge Two - The Engine that Fuels the MS&T Cluster is PEOPLE

K-12 STEM Pipeline

INPUT

OUTPUT
Providing Superior Products
Saving Time
Saving Money
Saving Lives

START-UPS

INCUBATORS

INPUT

PROVIDING SUPERIOR PRODUCTS

OUTPUT

START-UPS

INCUBATORS

INPUT

START-UPS

INCUBATORS
Challenge Three

Leverage.