



# Dynetics: Custom T&E Solutions for Demanding Applications

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ITEA 12<sup>th</sup> Test Technology Review  
Theme: "Back to Basics"

# Dynetics

100% employee-owned, Huntsville-based firm

- Focused on developing high-technology engineering products and services
- Mid-tier aerospace prime contractor
- \$293M revenue / approximately 1,500 employees
- Proven history as a prime contractor addressing our nation's most challenging and technologically advanced missions
- Extensive experience managing large, complex contracts
  - Managed 102 active contracts in Government FY13 with more than 800 task orders and a total contract ceiling value over \$750M
  - Manage over 100 subcontractors, from large businesses to small niche contractors
- Consistent cost and schedule performance
  - DIA/MSIC: 35+ years continual support
  - SMDC: 35+ years continual support
  - AMCOM: 35+ years continual support



# Core Business Areas

- **Intelligence**
  - Foreign materiel exploitation (FME)
  - Radar; missile; and command, control, communications, computers, and intelligence (C4I) scientific and technical analysis
- **Missiles**
  - Instrumentation systems
  - Structures
  - Radars/seekers
  - Precision-guided munitions development
  - Flight dynamics simulation and test
- **Aviation**
  - Unmanned aircraft systems (UAS) sensor integration
  - UAS systems integration laboratory
- **Sensors**
  - System design, development, test, and modeling and simulation
  - Signal processing design and development
  - Operational software development
  - Antenna architecture development
  - Real-time test infrastructures
  - Optical and radar sensor performance evaluation
- **Cyber**
  - Information assurance certification and accreditation
  - Information security assessments
  - Threat modeling and simulation
  - Information technology services
- **Space**
  - Low-cost launch vehicles
  - Satellites and space vehicles
  - Rocket propulsion
  - Integration, assembly, and test
  - Range and launch operations
  - Large structures





# Huntsville Campus



## Solutions Complex

- 110,000 ft<sup>2</sup> of labs and manufacturing space
  - 10K-class clean room
  - Vacuum chamber lab
  - Environmental testing lab
  - Printed circuit board (PCB) assembly lab
  - Instrumentation lab
  - High and low bay space
- 116,500 ft<sup>2</sup> office / conference space
  - Computer labs
  - Cyber/information assurance lab



## Corporate Headquarters

- 160,000 ft<sup>2</sup> offices and labs
- 21 conference rooms
- Special conference and training facilities
- Lab and computing areas
- Expanded library
- Large atrium area for displays and receptions



## R&D Facility

- 59,000 ft<sup>2</sup> offices and labs
- 4,200 ft<sup>2</sup> high bay
- 9,200 ft<sup>2</sup> low bay
- 8,000 ft<sup>2</sup> electronics labs
- 14,000 ft<sup>2</sup> Machining and Design Center

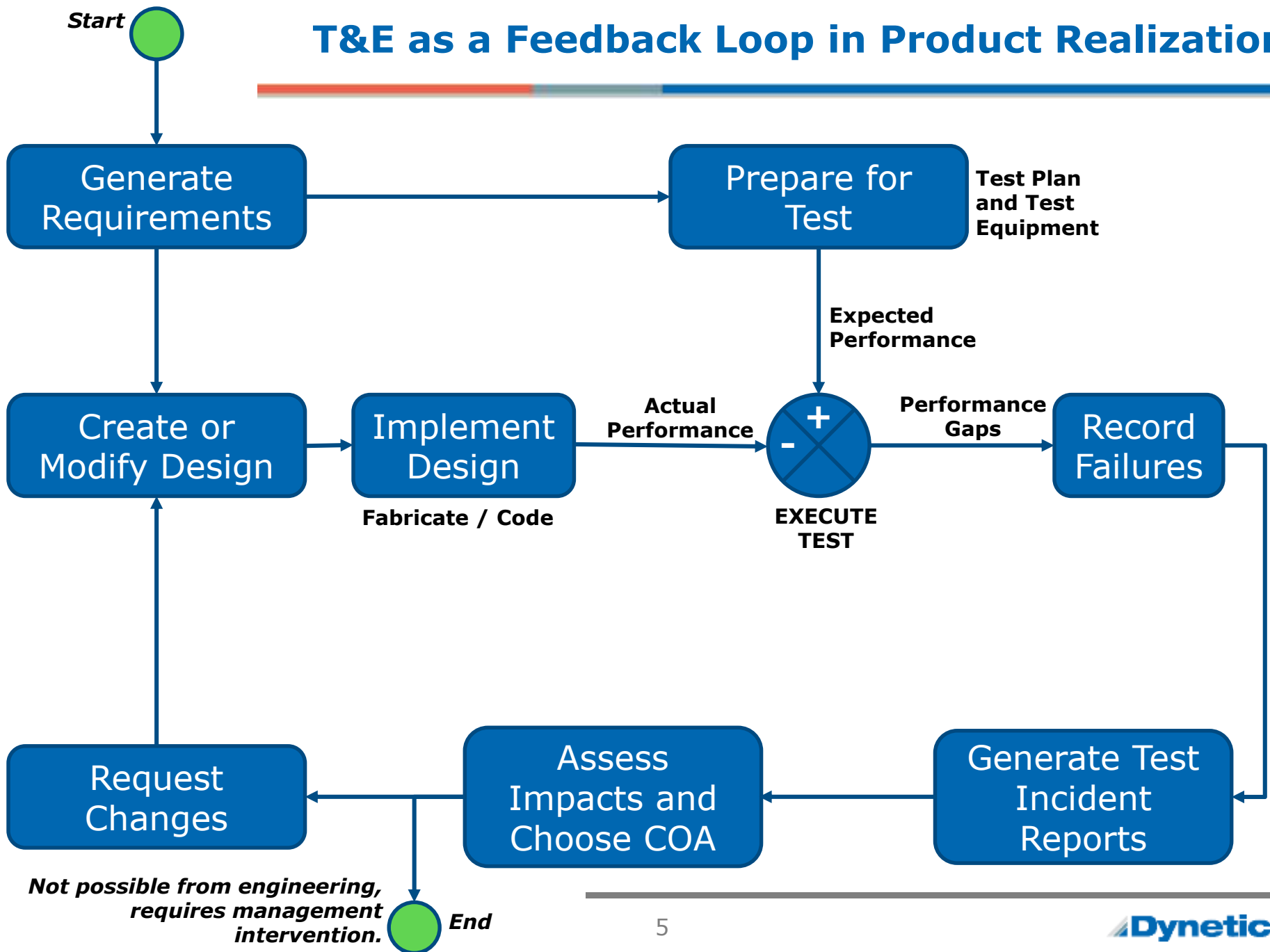


## Systems Building

- 57,700 ft<sup>2</sup> offices and labs
- 1,344 ft<sup>2</sup> high bay
- Large conference rooms
- Cyber security computer lab

With over 60,000 ft<sup>2</sup> of laboratories, high and low bays — our facilities are designed to provide unique capabilities for our customers

# T&E as a Feedback Loop in Product Realization



# Highlights of Dynetics T&E Equipment and Capabilities



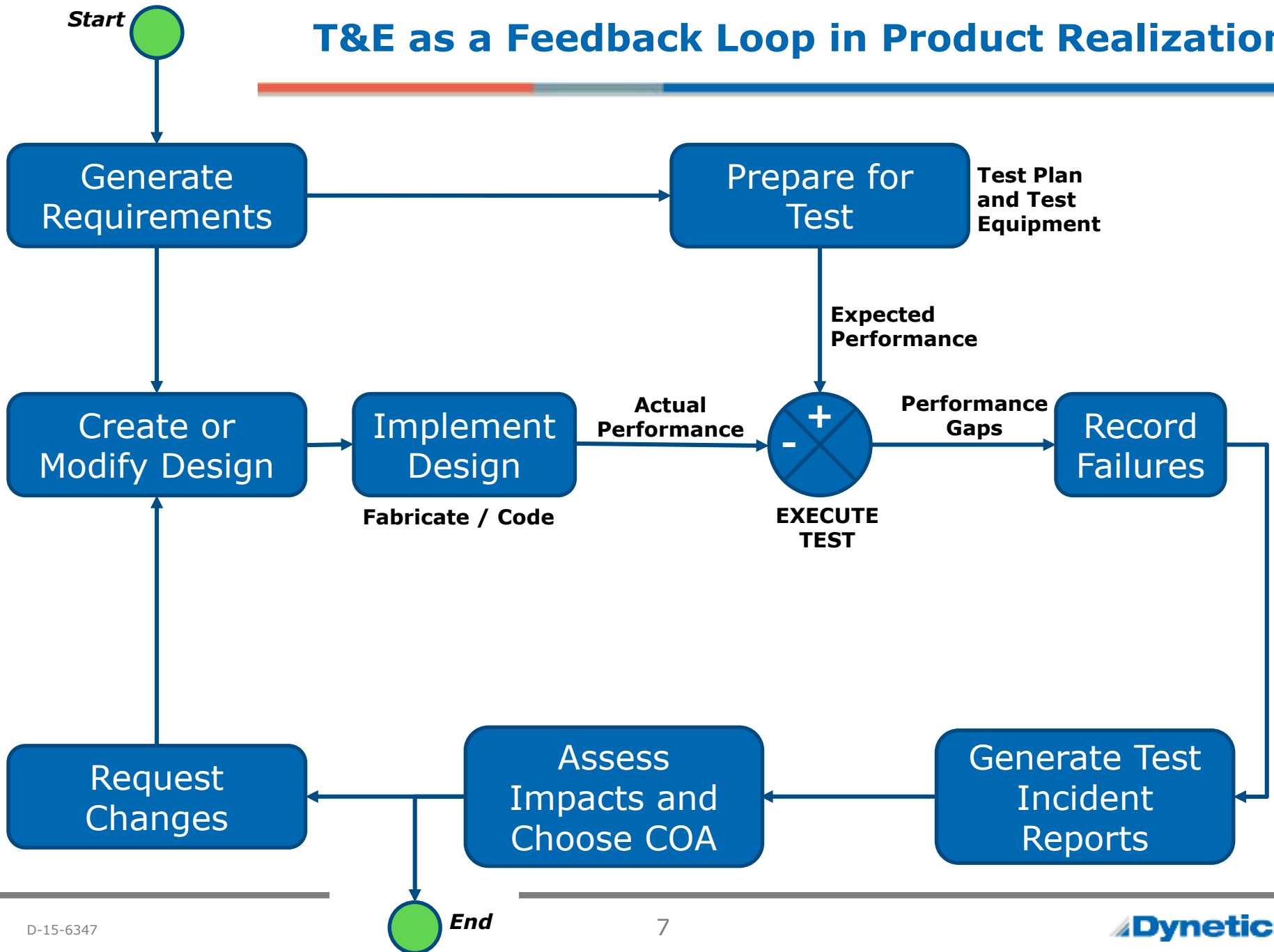
Prepare for Test



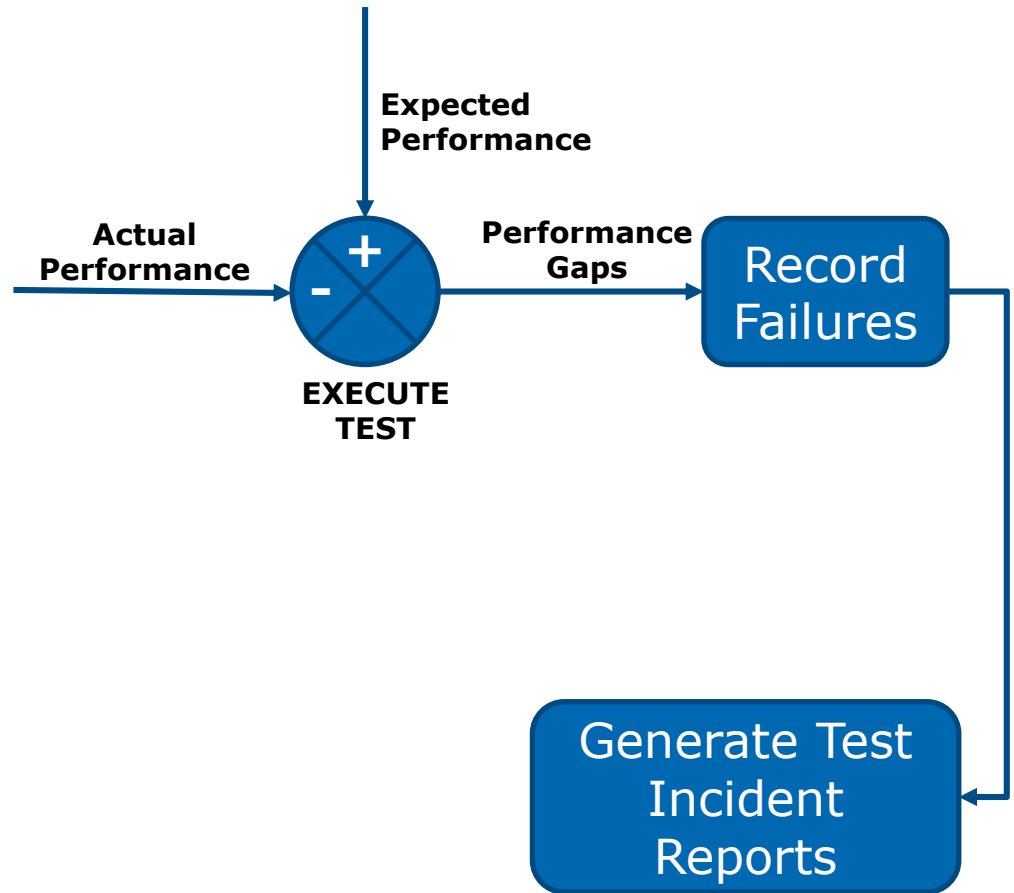
- Test Equipment Specialties:
- Modular Instrumentation System
  - Miniature Telemetry Systems
  - Custom Flight Test Instrumentation
  - Specialized RF Test Sets
  - Mobile Ground Receiver Station
  - Interoperability Test Tools
  - Environmental Test Equipment (ESS, Shock, Vibe, Rate Table, Thermal Vacuum, Anechoic Chamber)
  - Rocket Propulsion Test Facilities
  - EO/IR Sensors – Automated performance evaluation



# T&E as a Feedback Loop in Product Realization



# T&E as a Feedback Loop in Product Realization

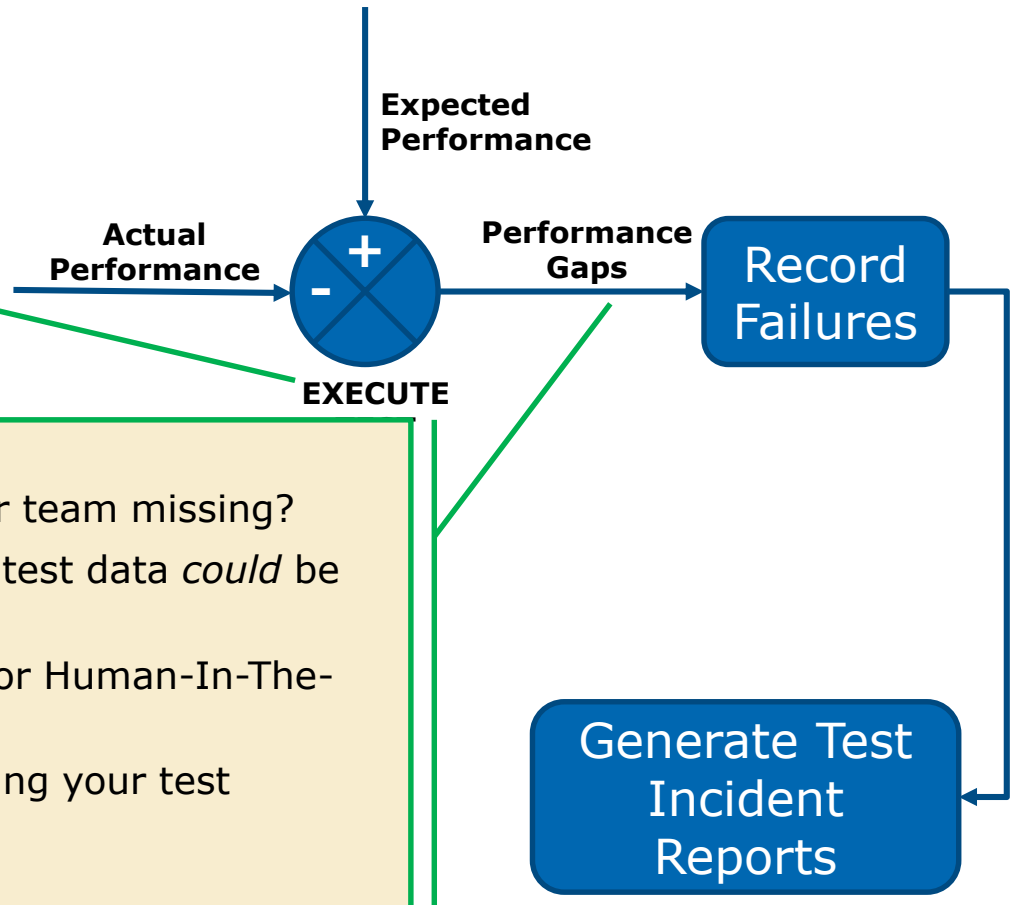




# Dynetics' Support for Test Execution

## Test Engineering:

- Planning
- Execution
- Data Management
- Data Analysis
- Reporting



## Data Analysis:

- What information is your team missing?
- Do you know what your test data *could* be telling you... but isn't?
- Particularly interesting for Human-In-The-Loop test events
- The value of instrumenting your test personnel
- Example: MTBSA

# Example: Integration Lab for Unmanned Aircraft Systems (UAS)



# Summary

- Dynetics provides robust T&E capabilities
  - Emphasis on physical systems
    - Mechanical
    - Electrical
    - RF specialties
    - Software
    - Safety-critical (flight systems)
  - We enjoy solving system-level problems
    - Creative approaches to analyzing test data
    - Hardware-In-The-Loop + Human-In-The-Loop
    - Instrumenting our test team... and users