



DoD Joint Fuze Technology Program (JFTP)

60th Annual NDIA Fuze Conference

Cincinnati, OH

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Outline

- **BLUF and Background**
- **JFTP Process**
- **JFTP Project Highlights**
- **Key JFTP and Fuze IPT Events**



Bottom Line Up Front

- This program addresses, from a Joint Service perspective, advanced Fuze technology development associated with improving the lethality, reliability, and survivability of munitions and weapon systems.
 - Main JFTP Thrusts: Cluster munitions replacement fuzing, hard target fuzing M&S and characterization, next generation proximity fuzing
 - GOTChA process technology planning conducted and ongoing for all four FATGs
 - Fuze Technology transitions to weapon applications – insertion into weapon R&D roadmaps/plans, secure PM/PEO endorsements, collaborative efforts with Industry

Strategic Thrusts > Technology Planning > Technology Application

- FY17: 6.2 - \$5.9M, 6.3 - \$6.2M

**JFTP FY18 Proposal Process ongoing
FY19 Call for White Papers will come out in 1QFY18**

Joint Fuze Technology Program Management Structure



**OUSD(AT&L)/(A)/
TWS/LW&M**



**Technical Advisory
Committee**



JOINT FUZE TECH PANEL OVERSIGHT COMMITTEE
PROGRAM MANAGERS (OSD, Army Air Force, Navy)

JFTP Support Staff

FUZE AREA TECHNOLOGY GROUPS			
FATGI – Hard Target / Survivable Fuzing	FATGII – Tailorable Effects & Initiation	FATGIII – High Reliability Fuzing	FATGIV – Enabling Fuze Technologies
Army, Navy, Air Force Co-Chairs	Army, Navy, Air Force Co-Chairs	Army, Navy, Air Force Co-Chairs	Army, Navy, Air Force Co-Chairs
SME Participants	SME Participants	SME Participants	SME Participants

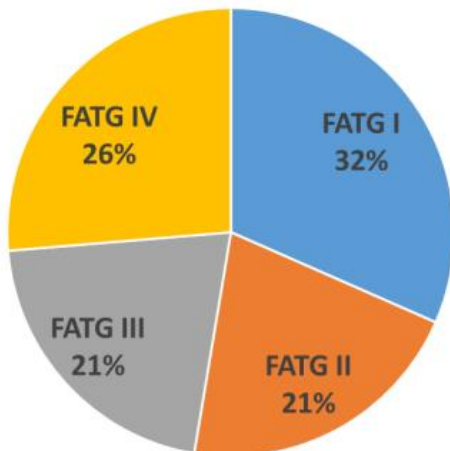


Budget History and Projections

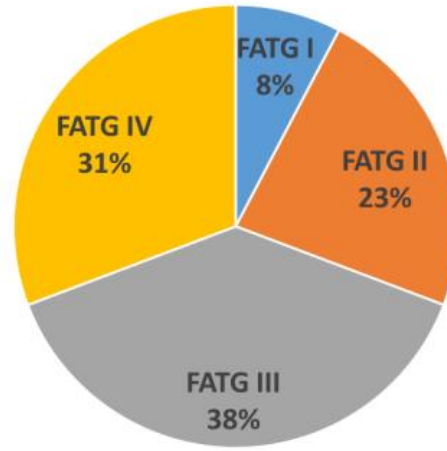
Budget by Year (\$M)

	FY16	FY17	FY18	FY19	FY20	FY21
6.2	6.270	5.794	6.248	6.319	6.405	6.531
6.3	6.686	6.202	6.658	6.706	6.797	6.930

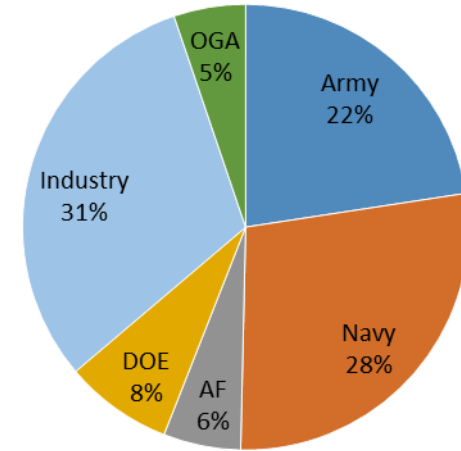
FY16 6.2 Funding Split by FATG



FY16 6.3 Funding Split by FATG

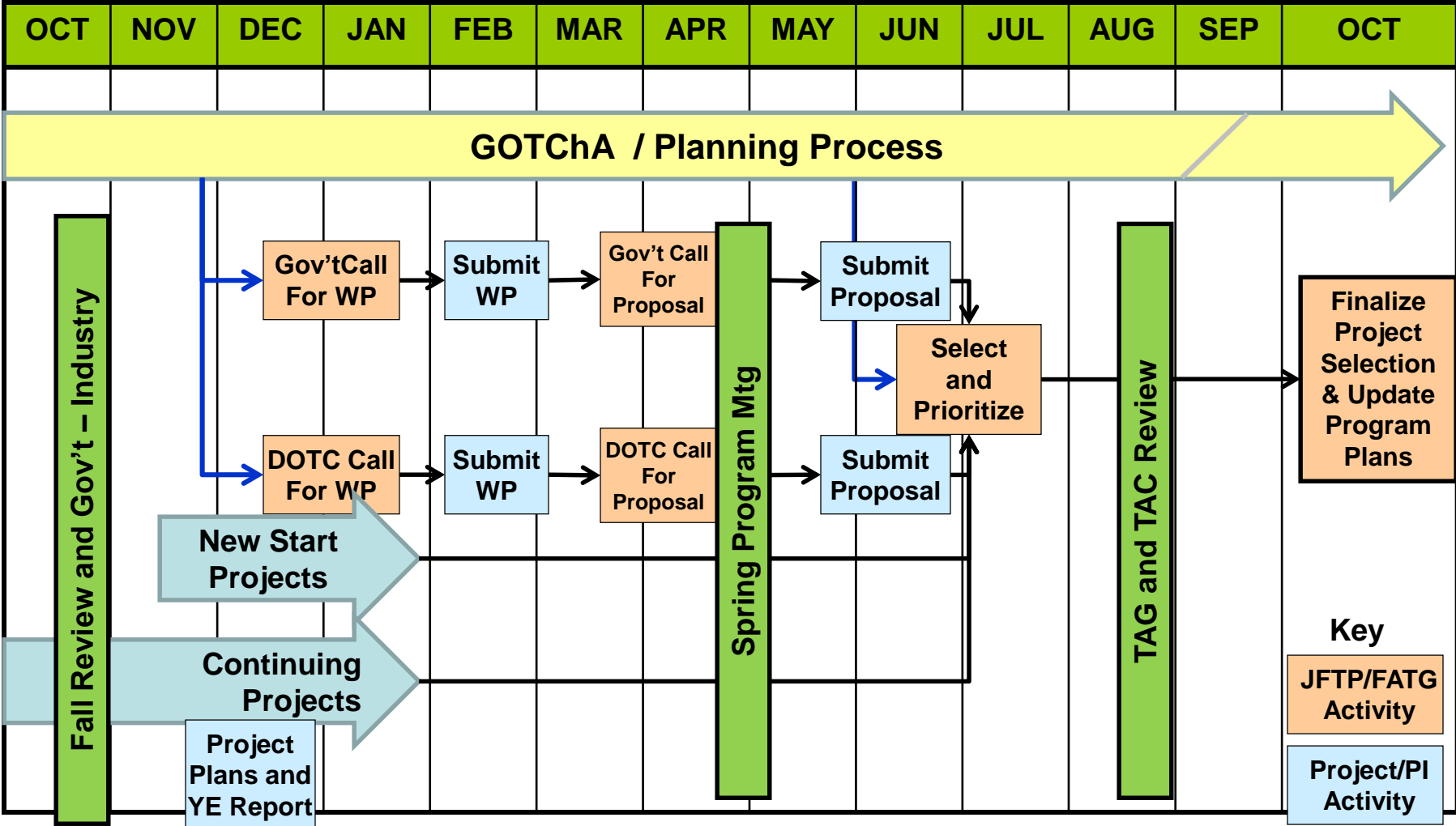


FY16 Funding By Executing Service or Activity





JFTP Annual Cycle





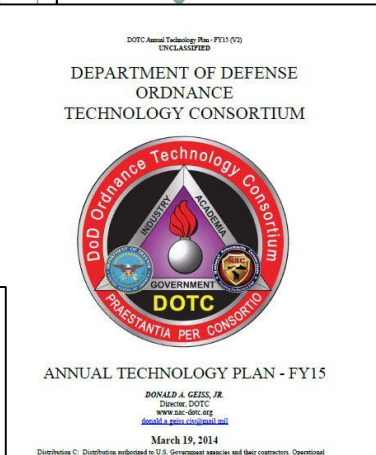
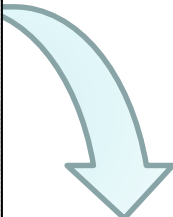
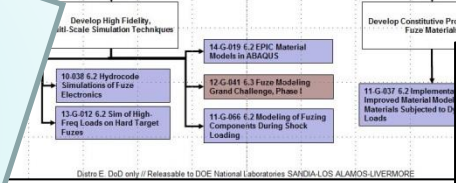
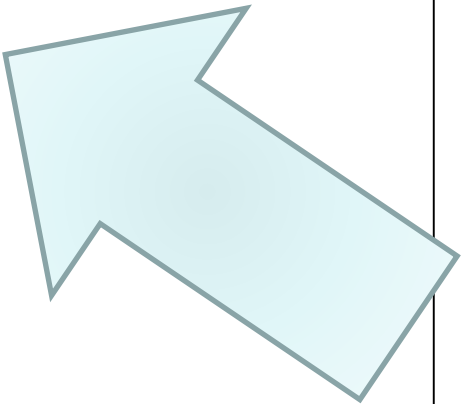
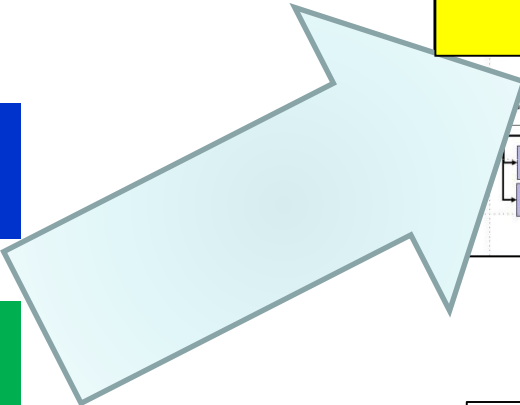
JFTP Service Requirements Flow-Down

GOTChA Process – Fuze Technology Plans

Air Force Weapon Gaps

Army Weapon Gaps

Navy Weapon Gaps



- JFTP Project Evaluation Criteria**
1. Technology Innovation, Feasibility and Maturity
 2. Technical Approach
 3. Addresses FATG Goals & Objectives
 4. Success Metric: Deliverables/Mil
 5. Transition & Transfer
 6. Leveraging/Cost
 7. Cost Realism
 8. Experience & C
 9. Jointness & Ad Services' Need:

- Leveraging and Cost Sharing
- Meeting Joint Needs/Gaps
- Transition Strength



Fuze Area Technology Groups

FATG I – Hard Target
/ Survivable Fuzing

Improved M&S

Measure Fuze
Environment

Replicate Fuze
Environment

Next Generation Fuzing
Hardware

FATG II – Tailorable
Effects & Initiation

Robust fuze technologies
(architecture and
components) to increase
the spectrum of targets
while decreasing
collateral damage

Fuze initiation
energetics/energetic
component technologies

FATG III – High
Reliability Fuzing

Area Effects Fuzing:

Measure and Replicate
Fuze Environment

Model Fuze in chaotic
environment

Critical Fuzing
Components

FATG IV – Enabling
Fuze Technologies

Common / Modular
Fuze Architecture

Component and Sensor
Technologies

Proximity Sensors



JFTP Project Highlights (FATG I)

JFTP Project, Fuze Modeling Grand Challenge: Computational Comparisons Round 3 (Session VA)

- Provides a baseline comparison of computational modeling tools in predicting fuze response using common test platform

JFTP Project 15-G-015: Hard Target Detection Algorithm Using Multi-Threshold G-Switches (Session IIIB)

JFTP Project: Using Modeled Impact Response of 3-D Printed Materials for High-G Survivability (Session IVB)

JFTP Project: Fatigue and High Strain Rate Behavior of SAC305 Solder (Session VA)



JFTP Project Highlights (FATG II)

JFTP Project: Vertically Integrating Switching Technology Progress and Test Results (Session IIIB)

JFTP Project: Hardened Selectable Multipoint Fuzing (Session IVB)

JFTP Project: Wireless Power Transmission for Remote Fuzing Applications (Session IVB)

JFTP Project: DoD MEMS Fuze Explosive Train Evaluation and Enhancement (Session VA)



JFTP Project Highlights (FATG III)

JFTP Project : Energy Harvesting and Event Detection for ESFA in Gravity Dropped Weapons (Session VB)

JFTP Project: Computational Evaluation of MEMS Latching Technologies (Session VA)

JFTP and ONR Project : High Reliability DPICM Replacement (HRDR) (Session IIIB)

JFTP and ARDEC Project: DPICM-XL High Reliability Fuzing (Session IIIB)

JFTP Project: Micro Scale Materials and Energetic Effects Characterization (Session IVB)

JFTP Project: DoD MEMS Fuze Reliability Evaluation (Session IVA)



JFTP Project Highlights (FATG IV)

JFTP Project: Advanced Analysis Techniques for the Implementation of Flash Devices In Safety-Critical Applications (Session IVB)

- Provides knowledge and issue guidance to DoD fuze and weapon community about Field Programmable Logic Devices for standardized, safe and effective use of F-PLDs in fuzing & weapons

JFTP Project: Imaging Fuze Experimentation for Weapon Terminal Burstpoint Control (Session IIIB)

JFTP Project: Fuze Setting Technologies for Rockets & Missiles (Session VB)

JFTP Project: Stacked MOSFET/IGBT Pulse Discharge Switch (Session IIIB)

JFTP Project: Joint Fuze Technology's Next Generation Proximity Sensors (Session IIIB)



DoD JFTP and Fuze IPT Key Dates

- **16 May 2017 – FY18 Govt Proposals due**
- **16 May 2017 – Industry / DOTC FY18 Proposals due**
- **Sept-Oct 2017 – JFTP proposers notified of acceptance/nonacceptance**
- **14-16 Nov 2017 – 49th DoD Fuze IPT / JFTP Fall Review (DoD, DOE and NAC attendees)**
- **1Q FY18 Call for FY19 JFTP White Papers**



Questions ?



Developing Fuzing Solutions for the Warfighter