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FINAL REPORT DOTC-12-01-INIT061 Technological Improvements for Digital Fire Control Systems

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6. AUTHOR(S)
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5d. PROJECT NUMBER
DOTC-12-01-INIT061

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N/A

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N/A

7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES)
CLogic Defense
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8. PERFORMING ORGANIZATION REPORT NUMBER
DOTC-12-01-INIT061F

9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)
US Army ARDEC
Building 95
Picatinny Arsenal, NJ 07806

10. SPONSOR/MONITOR'S ACRONYM(S)
ARDEC

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DISTRIBUTION STATEMENT A.Approved for public release; distribution is unlimited.

13. SUPPLEMENTARY NOTES

14. ABSTRACT
Final Report for DOTC-12-01-INIT061

15. SUBJECT TERMS
DOTC, Improvements, Fire Control

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a. REPORT	b. ABSTRACT	c. THIS PAGE			DIANA-LYNN HERBST
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Final Technical Status Report

For

DOTC-12-01-INIT061

Technological Improvements for Digital Fire Control Systems

Reporting Period: 30 Sep 17

Ordnance Technology Initiative Team

CLogic Defense - Lead

Metalcrafters, Giering

Initiative Team Technical POC

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1. Comments on Technical/Cost/Schedule Performance

All funded work has been completed and delivered

2. Initiative Quad Chart

Goals & Objectives	Initiative Information
Develop and fabricate next generation designs using advanced materials and processes. This will include but is not limited to, component fabrication; process integration, configuration management, materials development, coatings technology, packaging technology and overall systems engineering. Prototype and integrated system components shall be produced for developmental test units, production test units and integration units.	**Initiative Lead**: CLogic LLC **Team Members**: Metalcrafters Inc.; Giering **Period of Performance**: 36 months
Milestones & Technical Achievements	**Implementation & Payoff**
See 3.1	**Schedule**: March 2017 **Status**: Complete
	Technology will provide increased precision, accuracy and responsiveness to call for fire. These prototypes shall be more cost effective, sustainable, use a higher percentage of alternative, greener, lightweight materials, more energy saving and environmentally acceptable than the current processes/materials in use.
Current Status: Technical = Green Schedule = Green Cost = Green	

3. Supplemental Information

In order to improve the usefulness of the quad charts and provide DOTC with sufficient initiative information, the Quarterly Report must be supplemented with data described below.

3.1 Technical Achievements

Milestone Status:

#	Deliverable Description	Percent Complete
1	Requirements analysis	100%
2	Quarterly Technical and Business Status Report	100%
3	Develop drawings and models	100%
4	Develop manufacturing processes	100%
4.1	Develop manufacturing processes	100%
4.2	Develop manufacturing processes	100%
4.3	Develop manufacturing processes	100%
4.4	Develop manufacturing processes	100%
5	Design Tooling Processes	100%
6	Quarterly Technical and Business Status Report	100%
7	Component design development for gun components	not funded
8	Materials Dev and Critical characteristics ID	100%
9	Quarterly Technical and Business Status Report	not funded
10	Pro-E and 3D C and Model	100%
11	Annual Technical and Quarterly Business Status Report	100%
12	Quarterly Technical and Business Status Report	100%
13	Quarterly Technical and Business Status Report	100%
14	Developmental Units	100%
14.1	Developmental Units	100%
14.2	Developmental Units	100%
14,3	Developmental Units	100%
14,4	Developmental Units	100%
14.5	Developmental Units	100%
14.6	Developmental Units	100%
14.7	Developmental Units	100%
14.8	Developmental Units	100%
14.9	Developmental Units	100%
14.10	Developmental Units	100%
14.11	Developmental Units	100%

14.12	Developmental Units	not funded
14.13	Developmental Units	100%
15	Quarterly Technical and Business Status Report	100%
16	Prototype Production Test Units	100%
16.1	Prototype Production Test Units	100%
16.2	Prototype Production Test Units	not funded
16.3	Prototype Production Test Units	not funded
16.4	Prototype Production Test Units	100%
16.5	Prototype Production Test Units	100%
16.6	Prototype Production Test Units	100%
16.7	Prototype Production Test Units	not funded
16.8	Prototype Production Test Units	100%
16.9	Prototype Production Test Units	not funded
16.1	Prototype Production Test Units	not funded
16.11	Prototype Production Test Units	not funded
16.12	Prototype Production Test Units	not funded
16.13	Prototype Production Test Units	not funded
16.14	Prototype Production Test Units	not funded
16.15	Prototype Production Test Units	not funded
16.16	Prototype Production Test Units	not funded
16.17	Prototype Production Test Units	not funded
17	Annual Technical and Quarterly Business Status Report	not funded
18	Quarterly Technical and Business Status Report	not funded
19	Integration Units	not funded
19.1	Integration Units	not funded
19.2	Integration Units	not funded
19.3	Integration Units	not funded
19.4	Integration Units	not funded
19.5	Integration Units	100%
19.6	Integration Units	100%
19.7	Integration Units	not funded
19.8	Integration Units	100%
19.9	Integration Units	not funded
19.1	Integration Units	not funded
19.11	Integration Units	not funded
19.12	Integration Units	not funded
19.13	Integration Units	not funded

19.14	Integration Units	not funded
19.15	Integration Units	not funded
19.16	Integration Units	not funded
19.17	Integration Units	not funded
19.18	Integration Units	not funded
19.2	Integration Units	not funded
19.21	Integration Units	not funded
19.22	Integration Units	not funded
19.23	Integration Units	not funded
19.24	Integration Units	not funded
19.25	Integration Units	not funded
19.26	Integration Units	not funded
19.27	Integration Units	not funded
20	Quarterly Technical and Business Status Report	not funded
21	Configuration Management Plan	not funded
22	Design Assessment and test	not funded
23	Quarterly Technical and Business Status Report	not funded
24	Process Integration	100%
25	Producibility Study	100%
26	Manufacturability Report	100%
27	Technology Transfer Plan	not funded
28	Final Technical and Business Status Report	100%

3.3 Technical Readiness Level Status (TRL):

Initial Technology Readiness Level (at the start of the agreement)	Current Technology Readiness Level	Final Technology Readiness Level (expected at the end of the agreement)
3	7	7

1. Technology or technologies being worked on: Advanced Direct/Indirect 81MM Mortar. The weapon design will have the unique capability of providing direct fire (i.e. low quadrant elevation) as well as indirect fire. Fabrication of prototype components and vehicle integration is required to include; equipment required to operate the weapon (actuators), handle the ammunition (magazines), provide the weapon-to-vehicle interface (pedestal), multi-mode fuzes, power sources and integration of advanced component technologies. Fabrication of prototype weapon components is required to operate the weapon (actuators), handle the ammunition (magazines), and provide the weapon-to-vehicle interface (pedestal) need to be fabricated.

2. Is this technology an extension of a previous DOTC agreement or contract: No

3. System to which technology can transition: 81MM Mortar System

4. Commercial applications if applicable: not applicable

5. Government organizations or DoD Armed Force Services interested in technology other than AOR's organization: Special Operations Command (SOCCOM)

6. DoD Armed force services or organizations that could benefit from technology (not mentioned above): This system can likely transition as a Joint Services/NATO weapons system

7. Next step in technology transition process: Government will determine transition of technology worked on in this effort

3.3 Problems Encountered and Action Taken

- None

3.4 Non-Traditional Defense Contractor Participation

Name of Nontraditional*	Planned Start Date	Actual Start Date	Reason for Deviation from Plan
CLogic Defense	9/2/13	9/2/13	
Metalcrafters Inc	9/16/13	9/16/13	
Giering	9/24/13	9/24/13	