



NSWC Crane

“Harnessing the Power of
Technology for the
Warfighter”





Weapon Shot Counter (WSC)

8 May 2007

Presented by Mr. Jason Davis,
USSOCOM Weapon Shot Counter
Project Manager





Presented to NDIA Small Arms Symposium



- ➔ **Mission and Goals**
- ➔ **Basics of WSC Technology**
- ➔ **Software Development**
- ➔ **Acquisition Strategy**
- ➔ **Future of WSC Technology**
- ➔ **Questions or Comments**



SOPMOD PMO, NSWC Crane, will develop and acquire a Shot Counter for small arms. The Shot Counter will provide count, cadence of fire, weapon serial number, and other data necessary to develop an automated maintenance program for small arms. The maintenance program will predict barrel, bolt, and parts failures for timely replacement. The Shot Counter will first be compatible with the M4A1 Carbine using existing munitions. It will include a Data Collection Device and software compatible with common desktop and laptop computers. It will be reliable and durable in Special Operations Forces environments. It will be upgradeable to other small arms and calibers.

➔ Primary Benefits

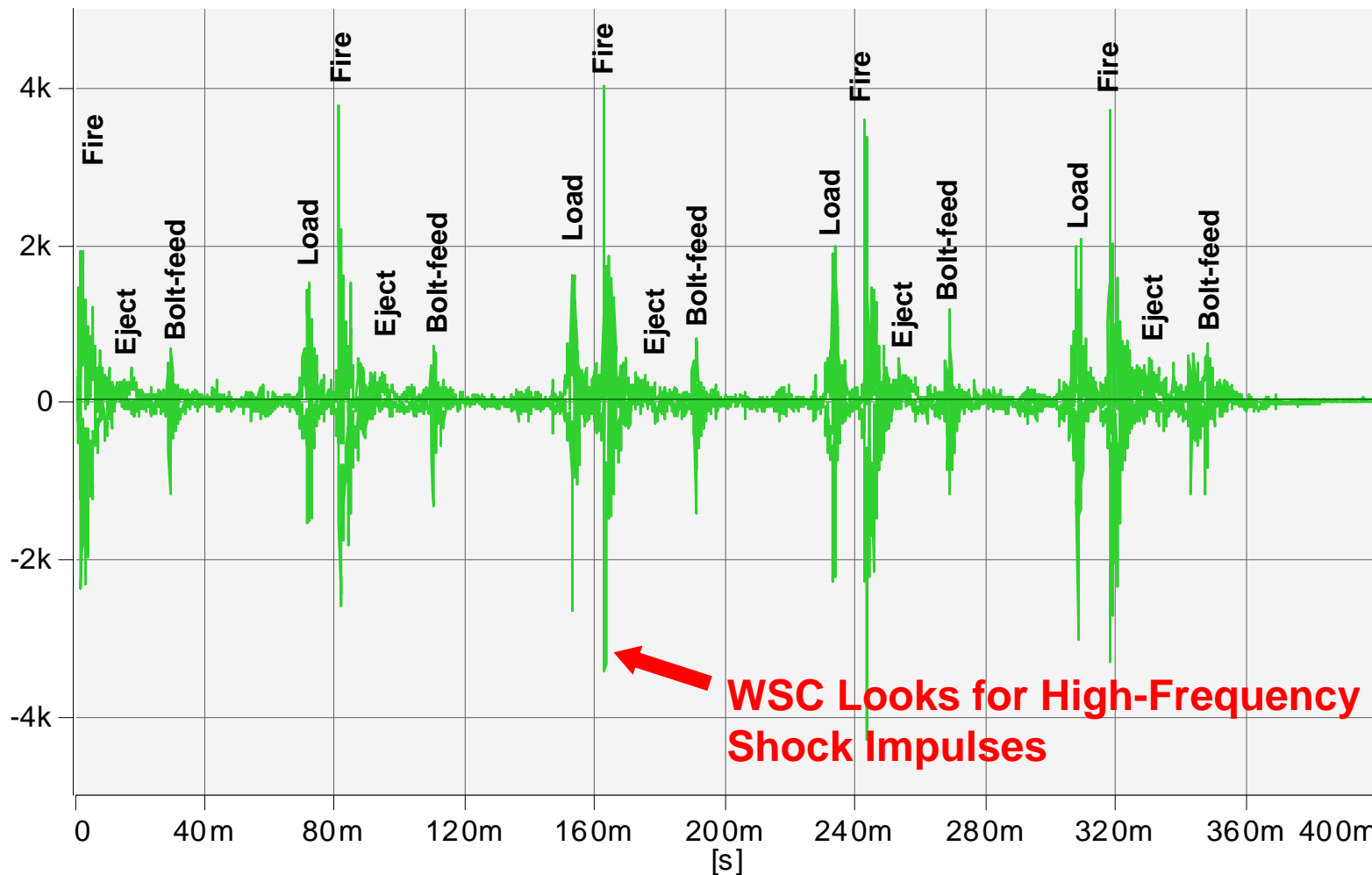
- ➔ Prevent Failures Before They Occur, Reducing Injuries and Saving Lives
- ➔ Reduce Unnecessary Maintenance Costs

➔ Secondary Benefits

- ➔ Possible Insight into Ancillary Equipment Failure
- ➔ Additional Means of Comparing Vendor Parts
- ➔ Compare Failure Occurrences Between Different Types of Weapons

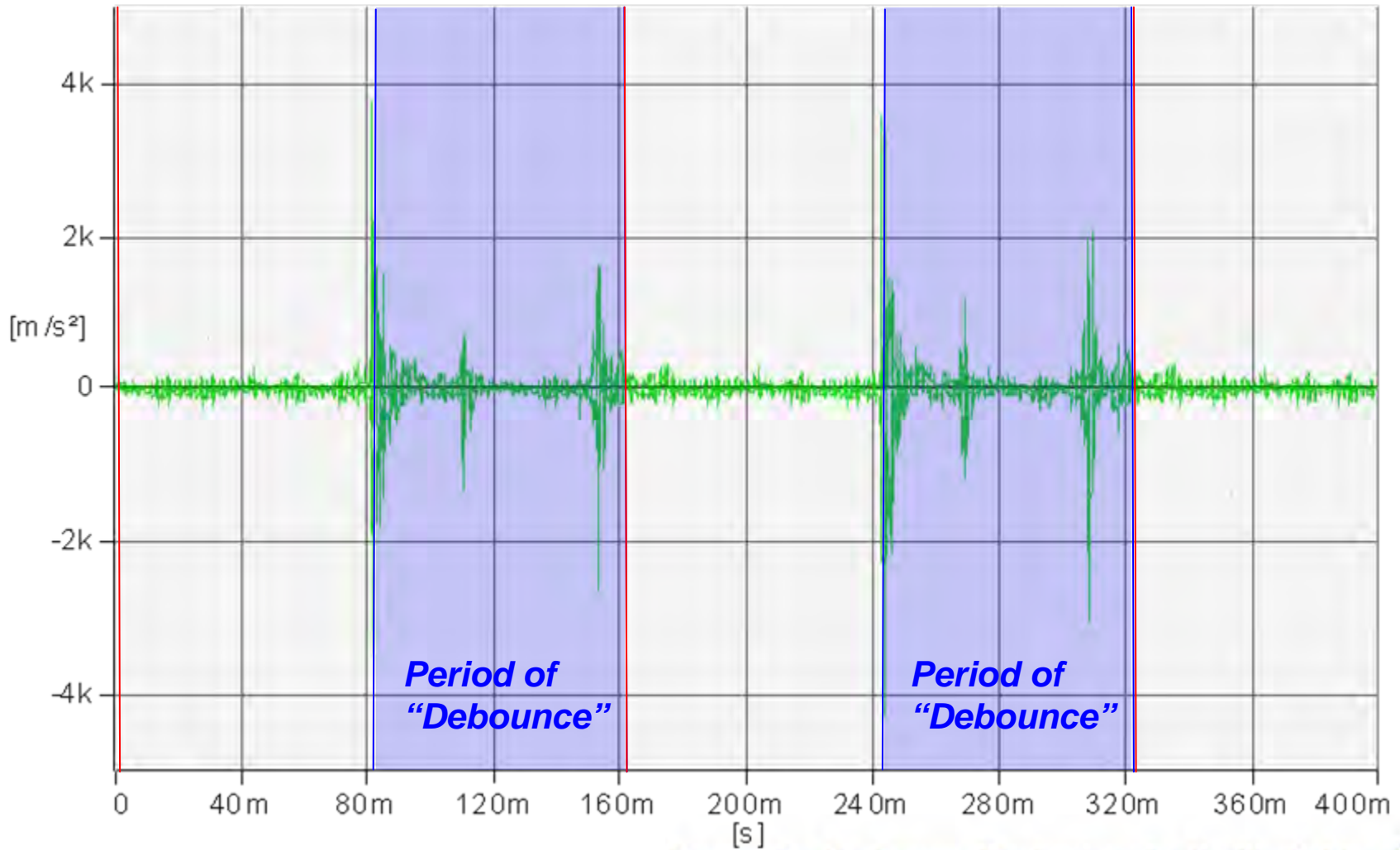
[m/s²]

M4A1 Carbine Shock Profile



How WSC Technology Works

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➡ Accu-Counter Technologies (Erlanger, KY) Selected for M4A1 Carbine WSC

SOPMOD/Armorer Designed

- ➔ **Integrates Part Failure Data Directly with Round Count. Software Suggests Required Maintenance.**
- ➔ **Automatically Records Results of Scan in a Maintenance Log.**
- ➔ **Maintenance Log Will Permit Armorers to Record Part Replacement and Reason for Replacement.**
- ➔ **Software Will Provide Armorer with Overall *Health* of Weapons.**
- ➔ **Easily Expandable for Inclusion of Other Weapons, Other WSC Vendors, Better Statistics on Round Count / Part Failure Correlation, and Additional Data Supplied by Future WSCs (such as Barrel Temp). Entirely Government Controlled.**
- ➔ **Software Will Allow Armorer to Age Weapon Parts if Necessary.**

Overall Weapon Health



▲	No attention needed
■	Action may be required
◀	Maintenance suggested

Weapon S/N	Barrel	Bolt	Gas Rings	Hammer Spring	Extractor Assy	Ejector Assy	Overall Weapon Health
W345703	▲	■	◀	▲	■	■	87%
W345011	▲	▲	■	▲	▲	▲	90%
W345703	▲	▲	◀	◀	▲	◀	64%
W350824	■	▲	▲	▲	■	▲	83%
W345911	▲	▲	■	▲	◀	▲	72%
W350824	◀	▲	▲	▲	■	■	10%
W350833	▲	▲	■	▲	▲	▲	90%

SCAN WEAPON

PRINT

EXPORT



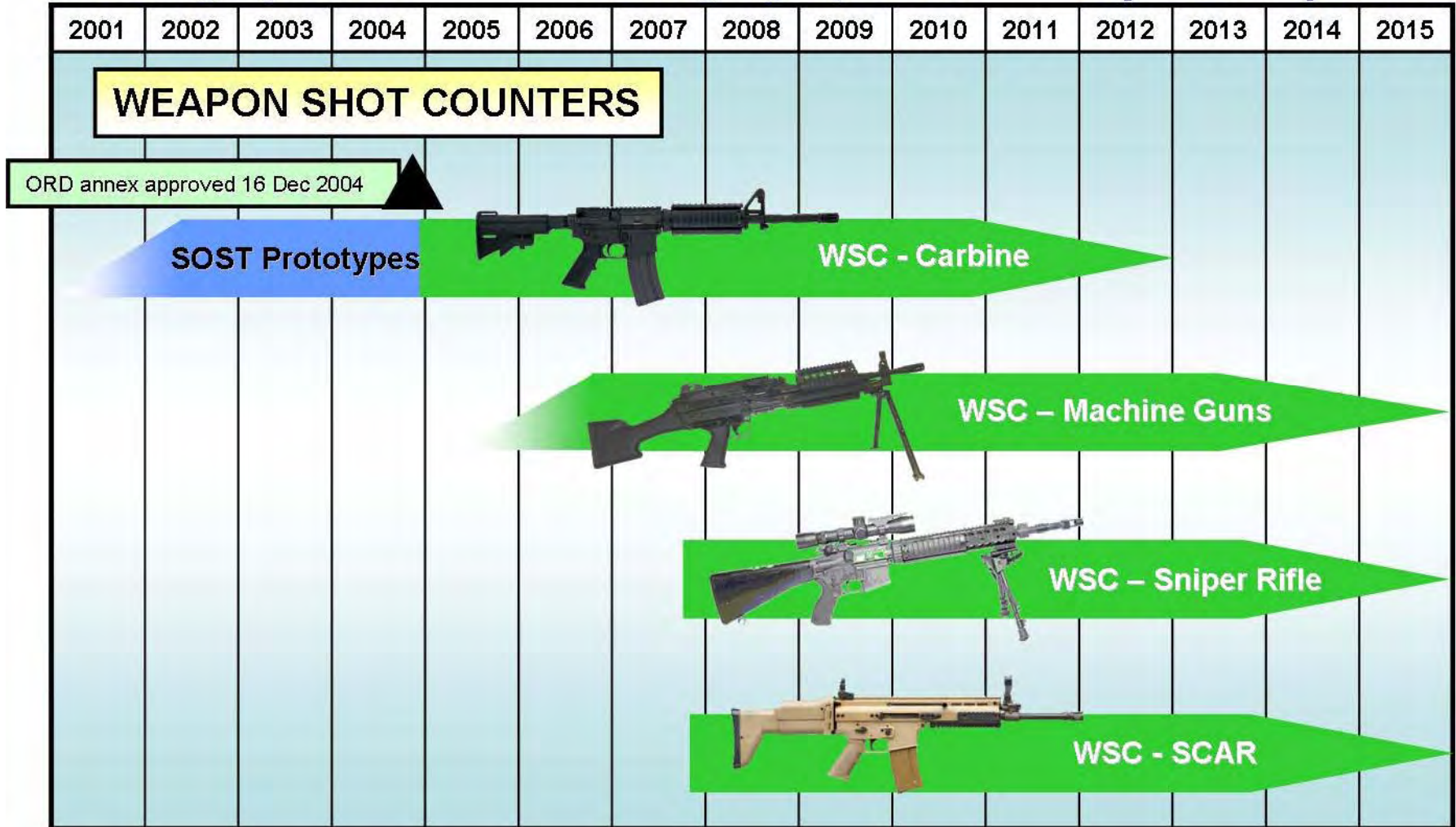
Acquisition Strategy



Existing Systems

Emerging Systems

Objective Systems



- ➔ **WSC Integral to Weapon, Not an Accessory**
- ➔ **Use of RFID Wireless Inventory Management**
- ➔ **WSC Stores Entire Maintenance History**
- ➔ **More Sophisticated Sensors: Able to Distinguish Between Types of Ammunition and Record Other Weapon Parameters, Such as Barrel Temperature**
- ➔ **Integration of WSC, UID, and Logistics Databases**

Logistics



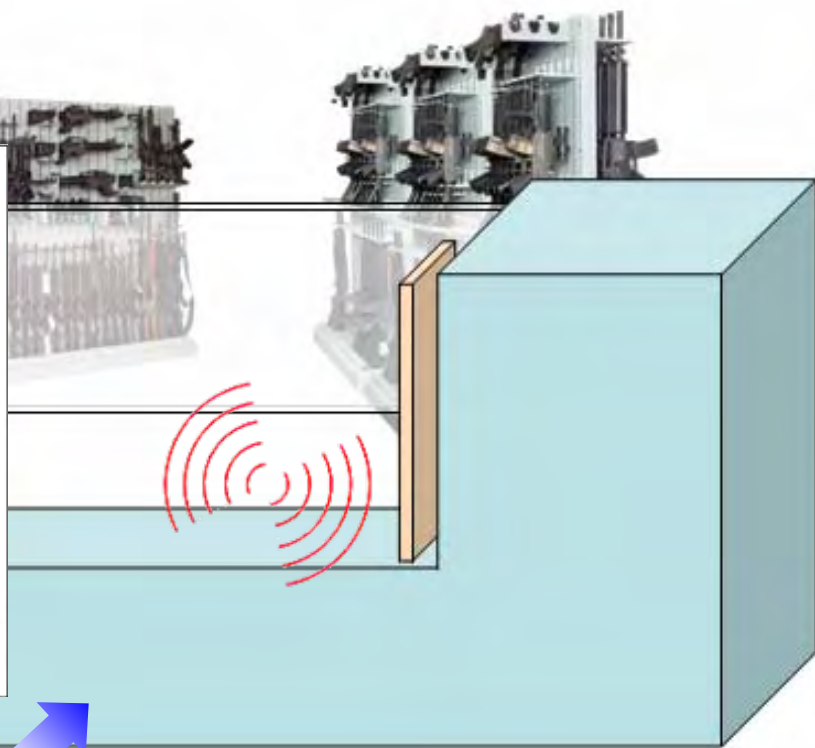
Armorer

United States DoD/
Uniformed Services

**Navy
Civilian**

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Issue Date
2012MAY24
Expiration Date
2014JULY22



Small Arms Room of the Future



WEAPON SHOT COUNTER

Enhanced Reliability • Increased Survivability • Improved Logistics



Questions or Comments?



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