Suppressing Sacred Cows

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• Introduction.
• Targetry – From data through information to knowledge!
• Trial Results – A platform for improving shooting training?
• Reconciling Training Expectations & Trial Results.
The SDE Team

Land

Air

Sea

Engineers & Scientists

Military SMEs

Project Managers

...Adding Value...
Our Customers

- Forsvarets forskningsinstitutt
- de&$s$
- Cranfield University
- Nammo
- RHEINMETALL
- QinetiQ
- DSTA - Defence Science & Technology Agency
- [dstl]
- Qioptiq
- RUAG - Aerospace Defence Technology
- THALES
- Lloyd's Register
- DML Devonport
- Australian Government Department of Defence Defence Science and Technology Organisation
- VT Group
- BAE Systems
- MSI-Defence Systems Ltd

Adding Value...
Live Fire Intelligent Target
Brief History
• Accurate detection of high velocity projectiles.
• Detection window 30m x 30m (Calibre and Sensitivity Setting Dependent).
• Detection (HV) up to 45° from either side of target centre.
• Radio Controlled (3 -4 km) & GPS for UTC.
• PC at every target for instant decision making and subsequent target behaviour.
• Allows sufficient scope for most realistic trial scenarios and LFTT.
The ‘intelligent’ targets capture the time and position (in 3D-space) of all shots that pass within close proximity to the target. The software processes this information to determine whether that specific shot would have resulted in a kill, incapacitation or suppressive effect.

The LFIT simulate the response of a potential enemy to the effectiveness of the incoming fire from the exercising troops and the targets respond ‘intelligently’ to the incoming fire, in an autonomous manner.
Target Behaviour Mode...

Full Suppression

Fall On Hit Options...

Incapacitate After... 10...Hits.

Suppression Options...

Suppression Zone Size... 1000...mm

Fall On Suppression Options...

Suppression Time... 5...s
Full Suppression Options

Achieve... Number Of Rounds... 2
Time Period... 15

Maintain... Number Of Rounds... 1
Time Period... 5

Re-Supp... Number Of Rounds... 2
Time Period... 15

...Adding Value...
Measures Of Effect (MOE)

- Time to engage enemy;
- Time to achieve initial suppression;
- Duration of suppressive period provided by ammunition load;
- Proportion of shots that are deemed to have some effect upon the enemy;
- Proportion of task duration for which the enemy was suppressed;
- Time to kill the enemy;
- Rounds to kill the enemy.
Lethality Trial Results and Operational Shooting Requirement (OSR)
The Infantry soldier must be able to react quickly and to fire accurately to kill or suppress an enemy to the limits of the battle range of his personal weapon, or at close quarters, from different static positions, on the move and from cover.

Reference: UK AOSP Chapter 1
Four-man teams must be able to kill or suppress an enemy in defence and in offensive operations at battle ranges to 600 metres.

Reference: UK AOSP Chapter 1
Current Process

Grouping & Zeroing
Application of Fire
Annual Weapon Test (OMS)
Individual Live Firing Tactical Training
Team Live Firing Tactical Training

Deliver OSR on Operations
• The Operational Marksmanship Standards (OMS) are Measures Of Performance.
• The Measured Performance is to achieve:

(h) % hits at (r) range on (t) target
Current Process

Grouping & Zeroing
Application of Fire
Annual Weapon Test
OMS=MOP
Individual Live Firing Tactical Training
Team Live Firing Tactical Training

Robust Link?

Delivery of Effect

Achieve OMS = Deliver OSR

SDE
Potential Impact of Changes in Training Regime

% Effective Shots

Training Regime 1
Potential Impact of Changes in Training Regime

- Training Regime 2
- Training Regime 1

% Effective Shots

Case 1  Case 2  Case 3  Case 4  Case 5  Case 6  Case 7
A Different Approach

![Bar Chart]

- **CFT**
- **DFT**
- **Section**

300m

500m

...Adding Value...
Conclusion

- FIT allows the effectiveness of live fire tactical training to be measured.
- FIT allows weaknesses in the delivery of lethal effect to be identified and improved.
- FIT assists with improved capability on the battlefield.
emonstration to School of Infantry Mar 08.

egotiation with School of Infantry to provide LFIT service to all recruit and command courses up to platoon leader.

tarting discussions with RAF Regiment.

cussions with HQ Land Command to support Pre Deployment Training (PDT).
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