

NDIA Conference
Little Rock Arkansas 2001

METAL STORM

Advanced Individual Combat Weapon [AICW]

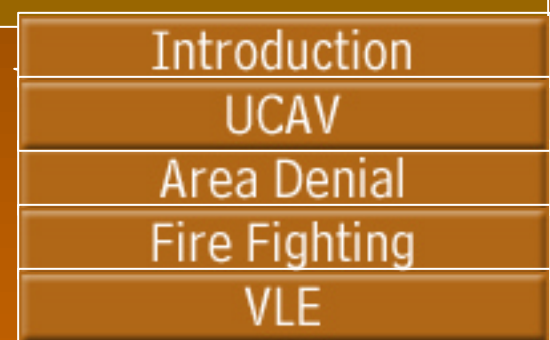
Styer AUG Upgrade

Concept Technology Demonstration [CTD] Program

Metal Storm Interactive CD

Videos - Reports - Frequently Asked Questions - More

Pick up a Metal Storm CD



Defence Science & Technology Organisation

Weapons System Division

Salisbury South Australia

Pick up a Metal Storm CD

Area Denial Video

Vehicle Self Defense Video

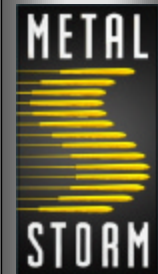


Metal Storm is all about:

- Stacking Projectiles Directly in Tubes
- Storing Projectiles in Multiple Tubes
- Firing Them Electrically from Tubes

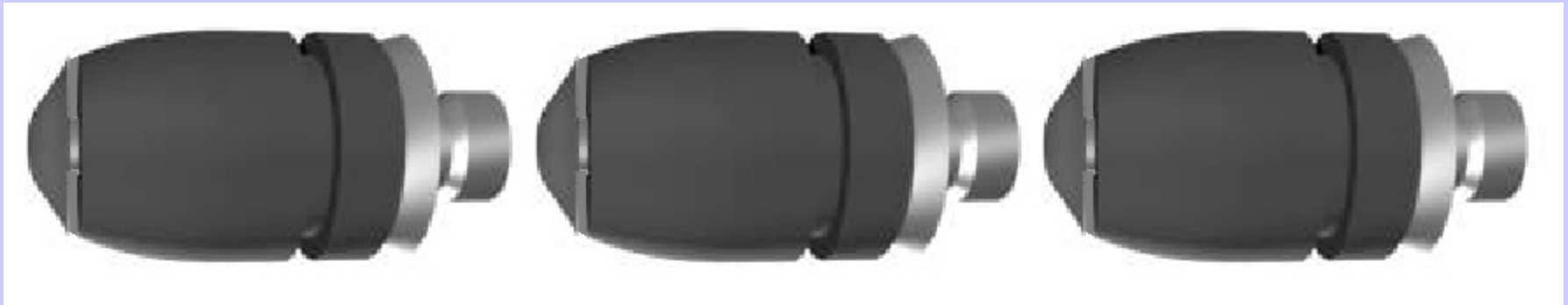
The System:-

- 100% electronic delivery system
- NO moving parts

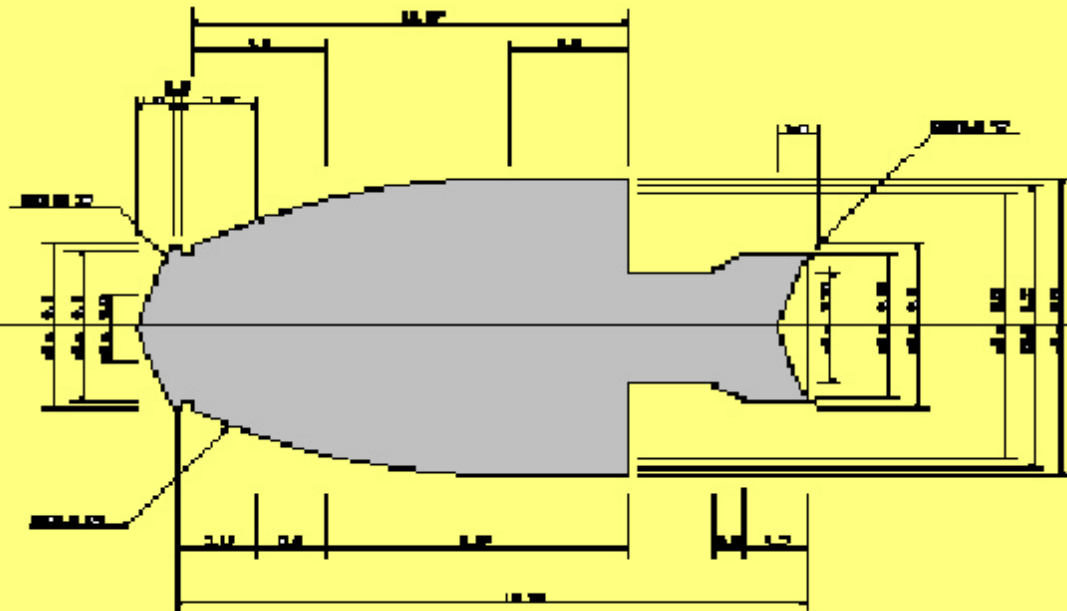


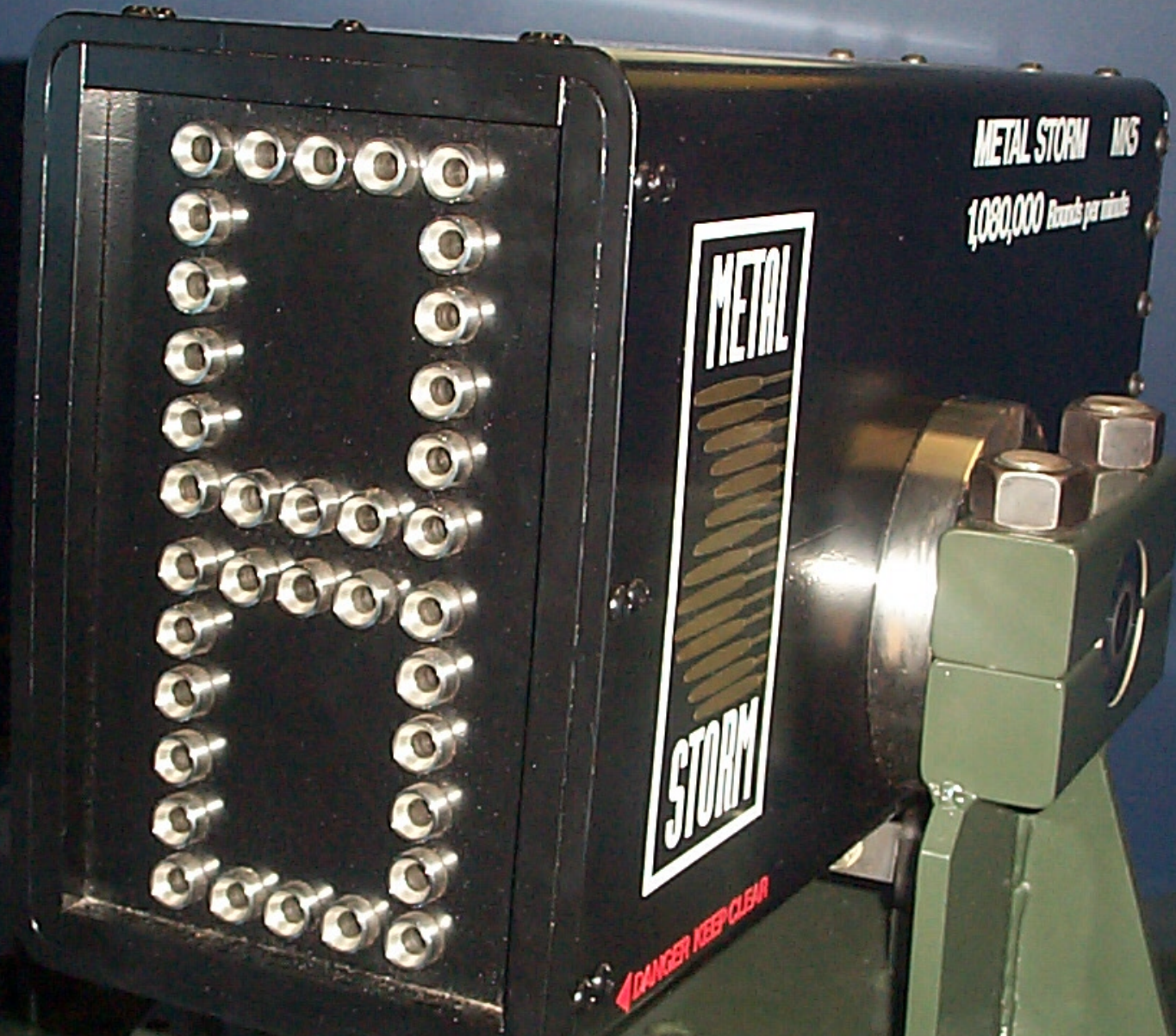
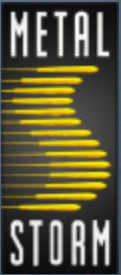
At the Core of the Technology's Capabilities is a Unique Projectile

..Which enables multiple projectiles to be stacked in-line in a barrel, and then electrically fired in sequence.



METAL
STORM



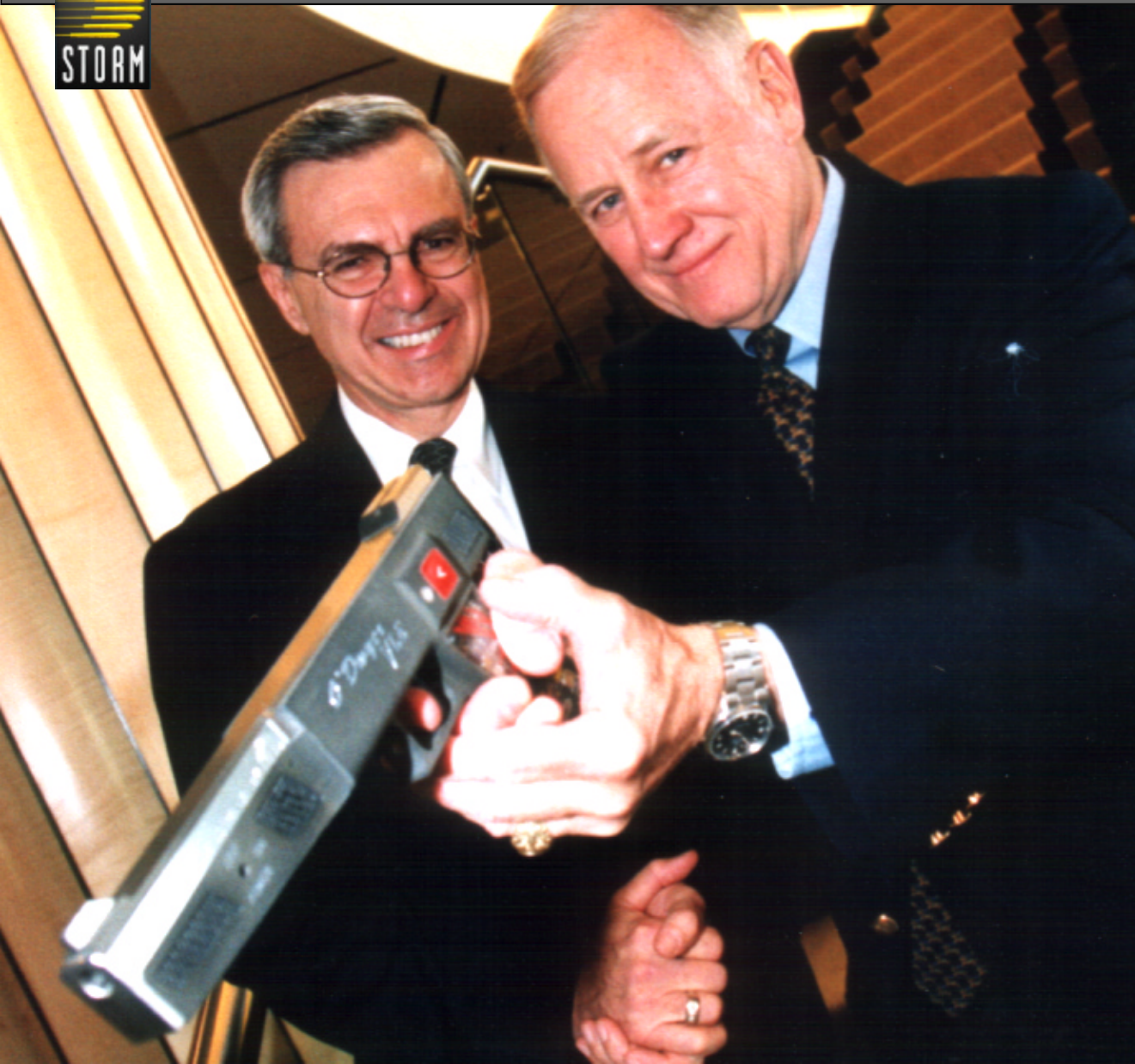


The First TOTALLY Electronic Firing System



180 Rounds at One Million Rounds per Minute
36 Barrels. 540 Rounds. No Moving Parts.
100% Solid State Operation. Infinitely Variable Firing

United States Directors



Admiral Bill Owens

[ret]

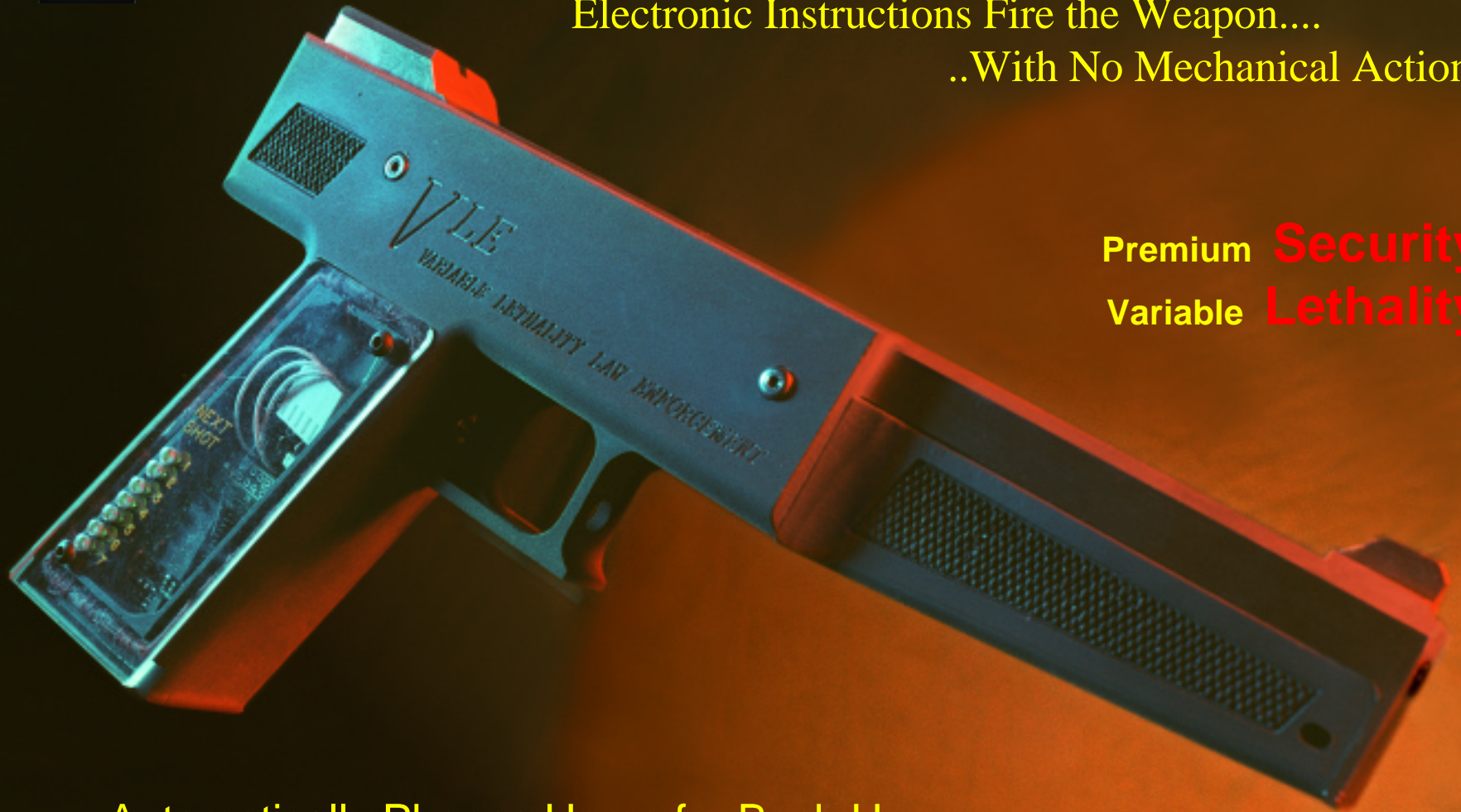
On Left: Retired 1996 as
Vice Chairman
US Joint Chiefs of Staff

GEN Wayne Downing [ret]

On Right: Retired 1996 as
Commander-in-Chief
US Special Operations
Command

VLe Police and Military Small Arms

Electronic Instructions Fire the Weapon...
..With No Mechanical Actions

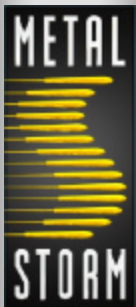


Premium **Security**
Variable **Lethality**

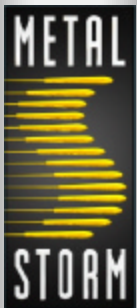
- Automatically Phones Home for Back-Up.
- Knows it's Owners. Can't be operated if Stolen.

The Operator can Select the following Tested settings:

- Semi Auto Firing
- Double Tap @ 45,000 rpm
- Triple Tap @ 60,000 rpm
- High Energy Mode at 500,000 rpm *

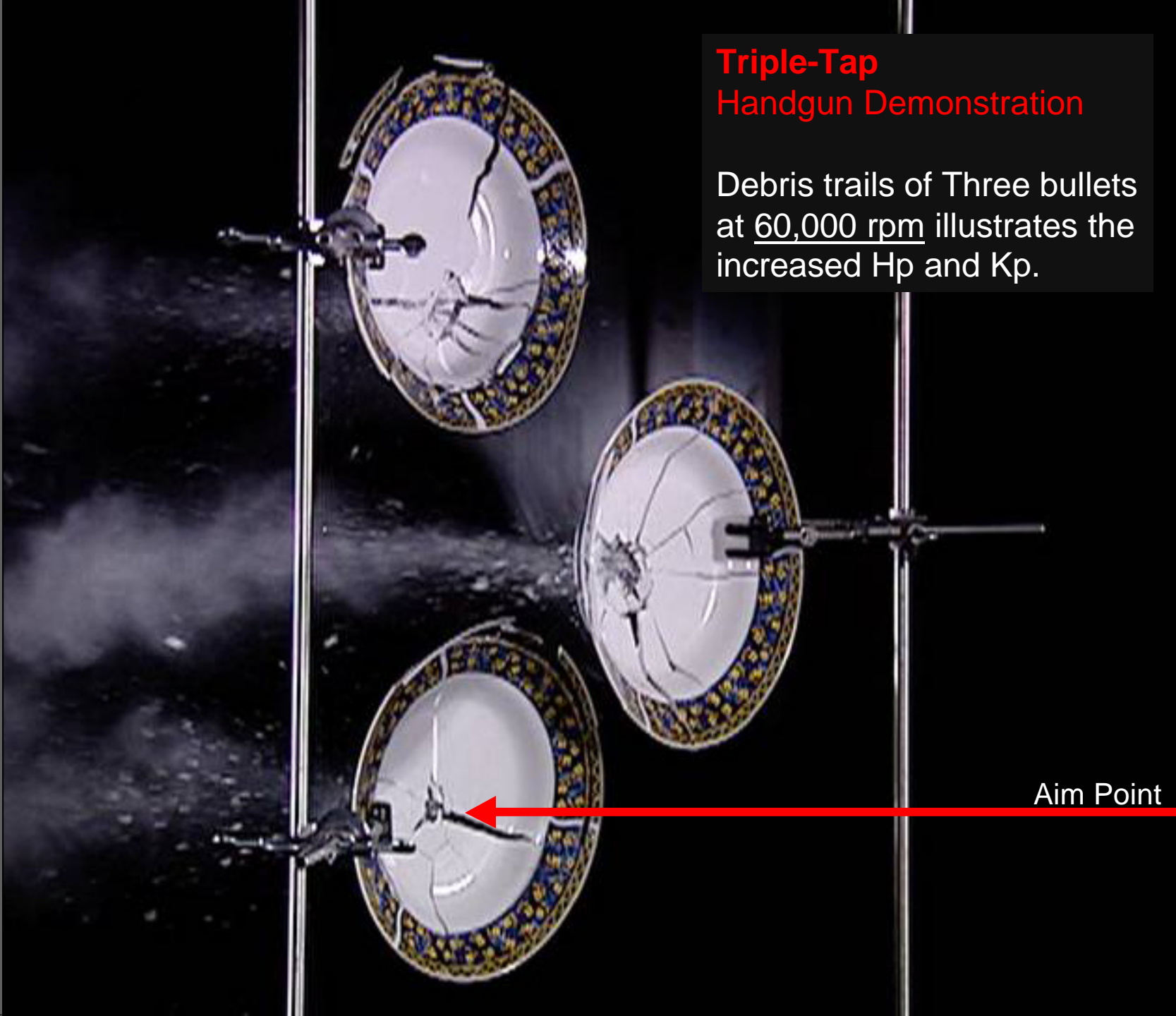


* Firing 2 Rounds at 500,000 rpm 'pushes' the First Round.
Up to 56 % increase in Kinetic Energy.



Triple-Tap Handgun Demonstration

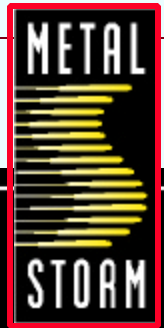
Debris trails of Three bullets at 60,000 rpm illustrates the increased Hp and Kp.



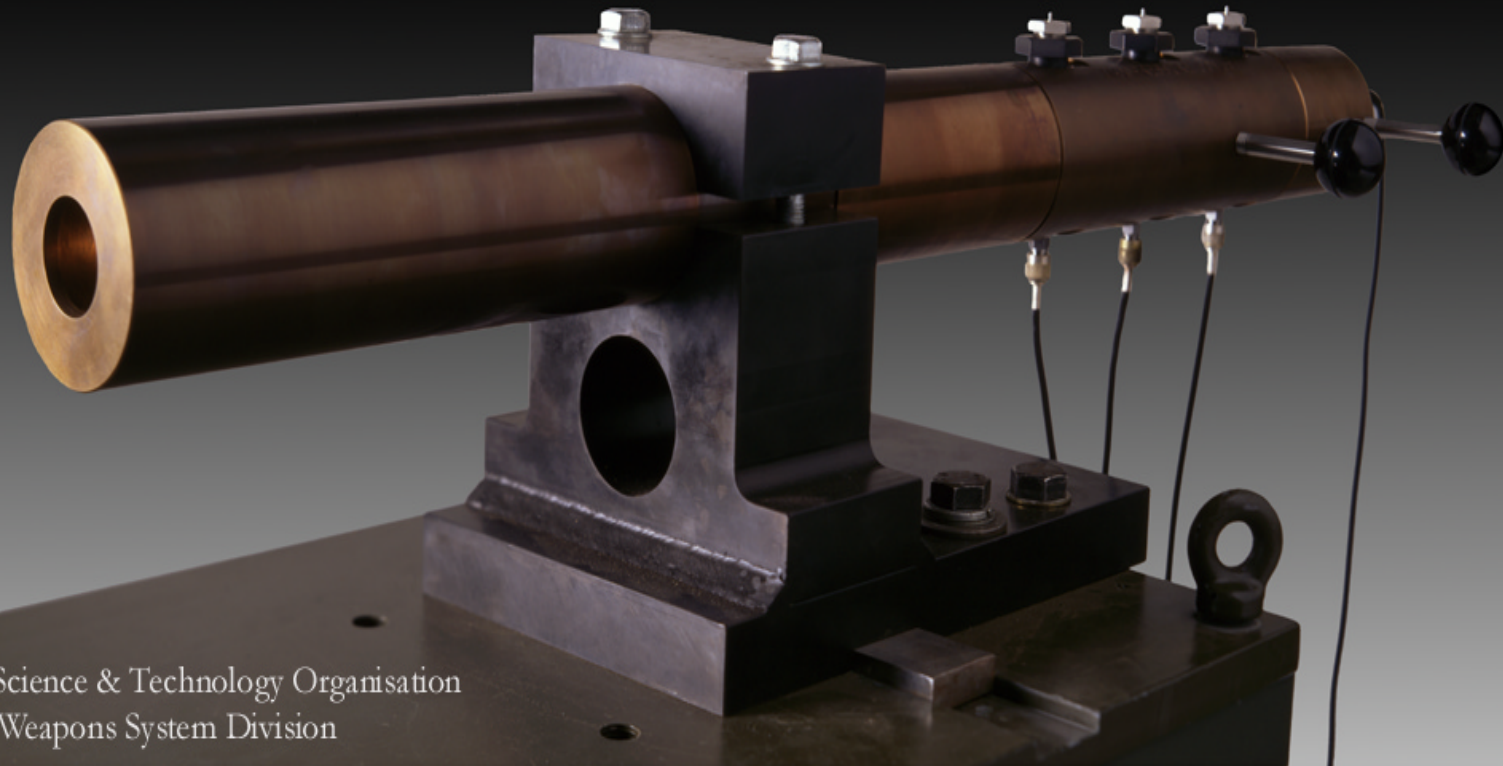
Aim Point

Multiple Barrels: *Select Lethal Fire or Less-than-Lethal*





Mk1 40mm Grenade Launcher Testbed

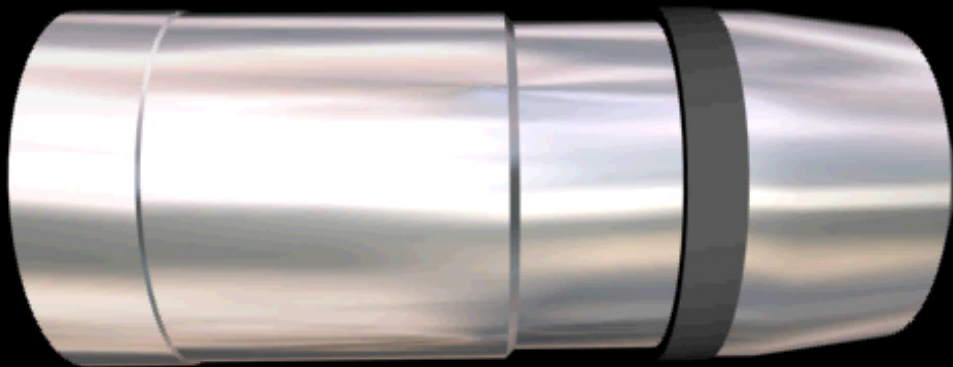
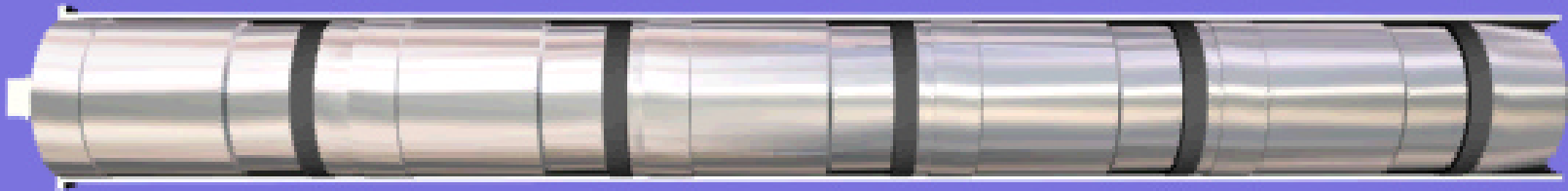


Defence Science & Technology Organisation
Weapons System Division

Experimental Program

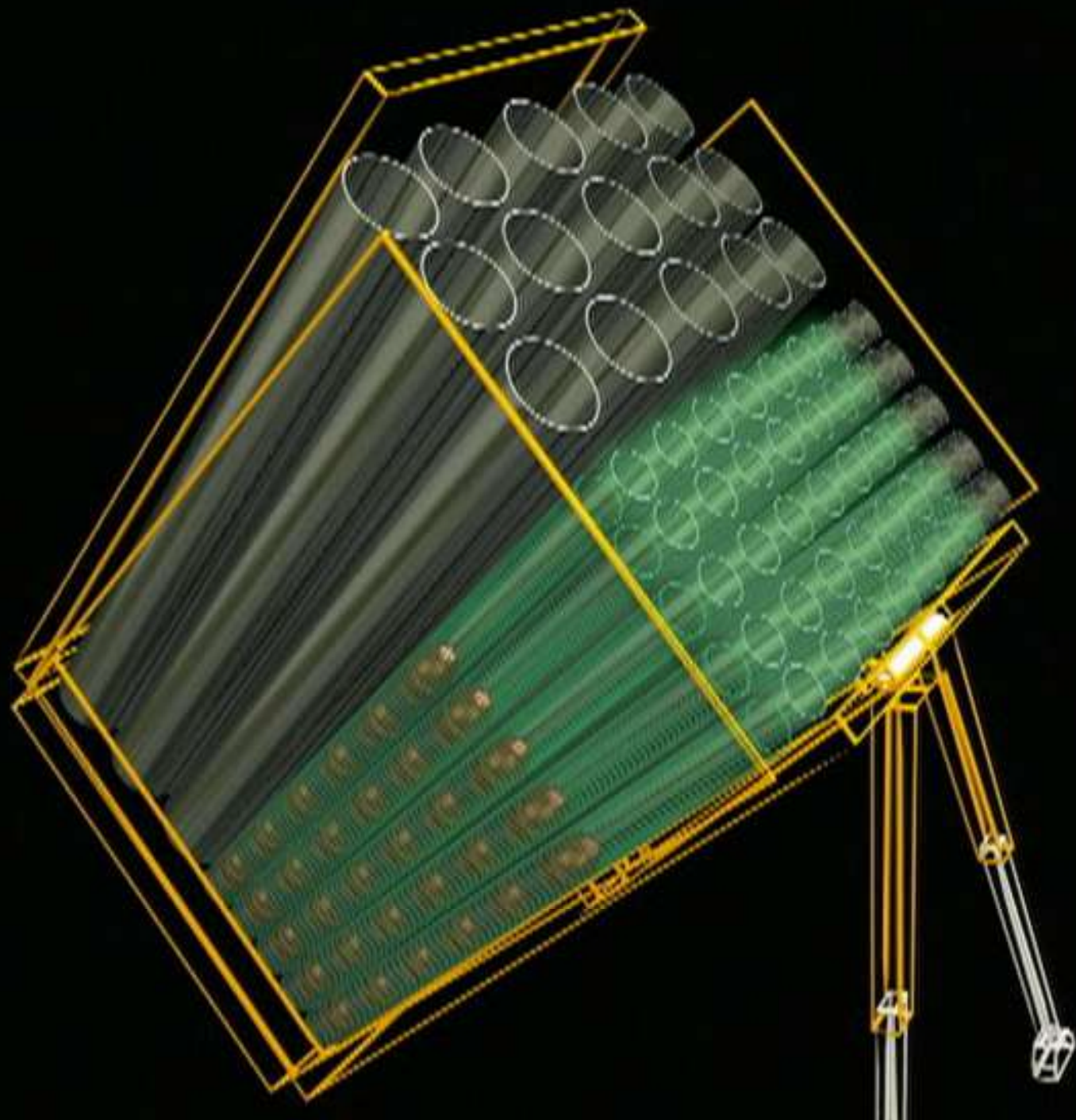
- Future test program will demonstrate a 5 projectile cartridge unit
- Various cartridge options will be explored

Cartridge unit is completely self contained



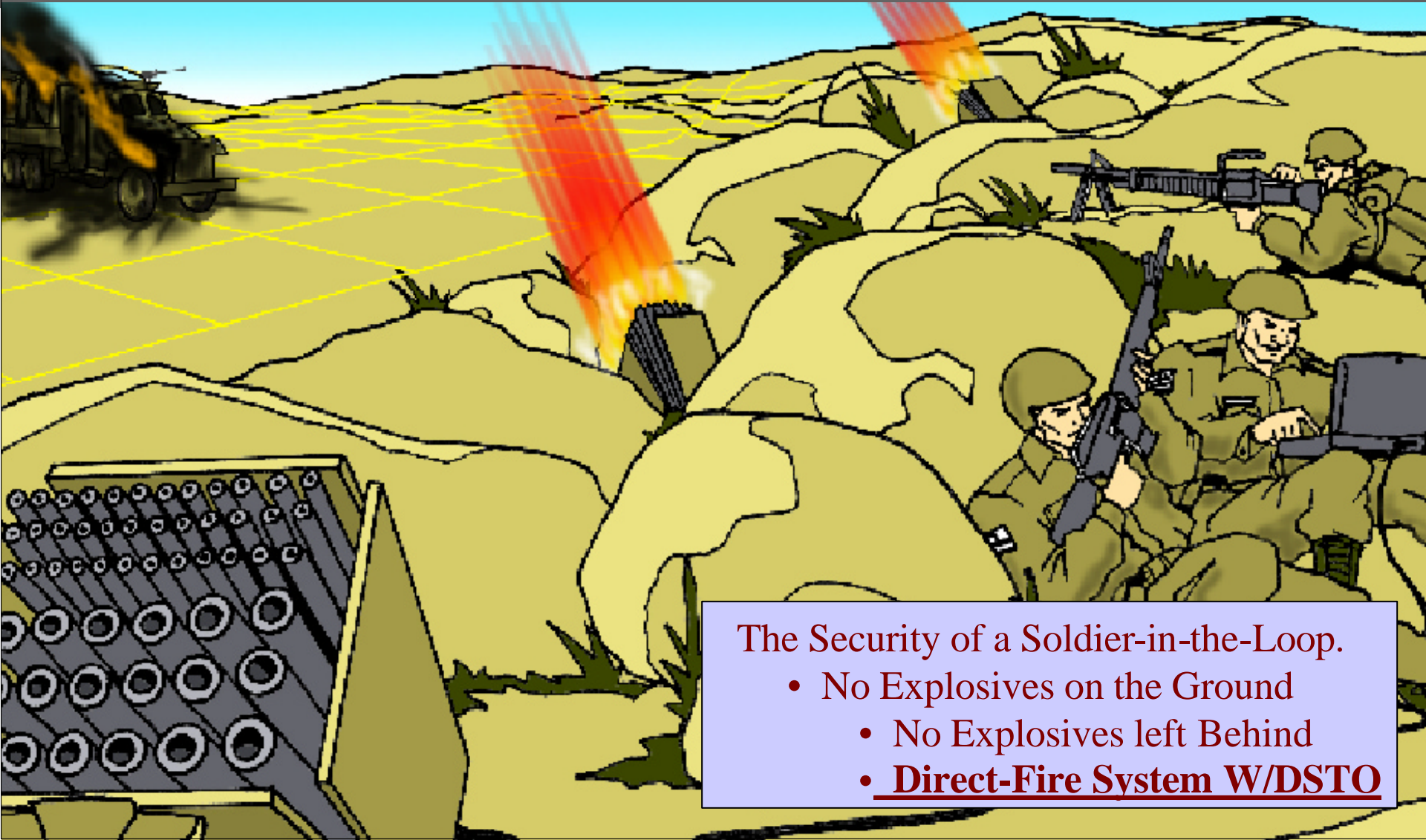
Current generation
40mm projectile

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Area Denial Weapon System

[Anti-Personnel Landmine Alternative]



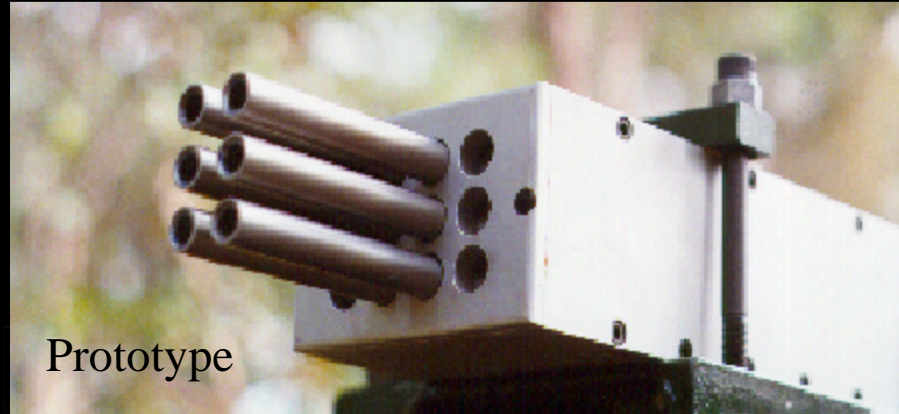
The Security of a Soldier-in-the-Loop.

- No Explosives on the Ground
- No Explosives left Behind
- **Direct-Fire System W/DSTO**

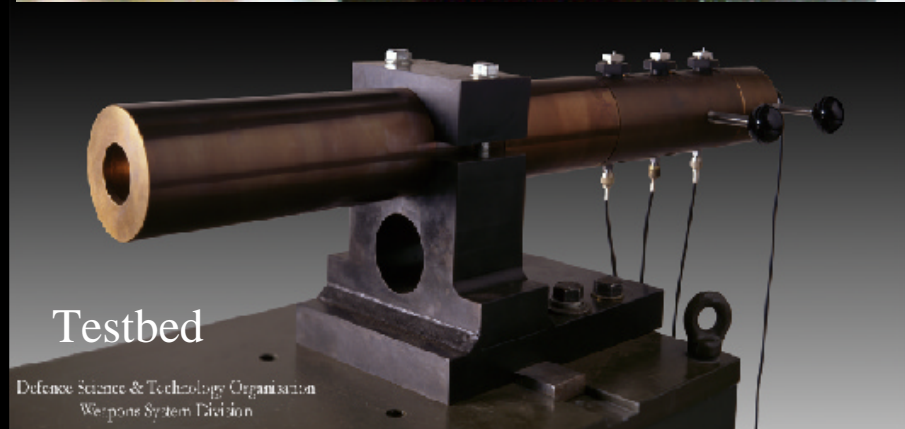
Metal Storm Live Firing Demonstrations:

Blossom Point Range
Washington DC
19-20 July 2000

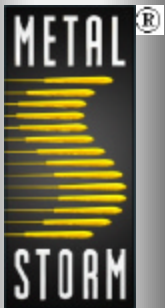
- 9 mm



- 40 mm



- VLe





Blossom Point Firing.

US \$ 50 Million: Defence Agency Programs:

- **Advanced Sniper Rifle: DARPA**
- **Area Denial Weapon System Program: DSTO**
- **Joint US /Australian Development Program**
- **Advanced Individual Combat Weapon: DSTO**

Self Funded Activity:

- **Commercial Fireworks Mortar Box**
- **Vle Electronic Handgun**

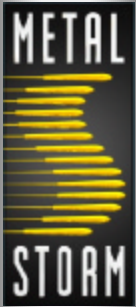
Advanced Individual Combat Weapon

[AICW]

- **20/30/40mm Electronic Stacked-Rounds Barrel**
- **5.56mm Mechanical Barrel**
- **Lightweight**
- **Compact**
- **Land Warrior Compliant**

A Hybrid Electronic / Mechanical Weapon

[HEM]



AICW: A Capability Upgrade for Australia's Styer AUG

Caliber:.....5.56mm NATO
Action:.....Gas operated, rotating bolt
Overall length:.....805 mm (with 508mm barrel)
Barrel length:.....508 mm
Weight:.....3.8 kg unloaded
Magazines:.....30 or 42
Muzzle velocity:... .970 m/s



Length 817mm

[AICW] Advanced Individual Combat Weapon

Program Team:

- DSTO [Australia]
- Metal Storm
- IT Lasers [Israel]
- ADI
- Tenix



Illustration by Courtesy of DSTO

Hybrid : Top Barrel: 20/30/40mm Stacked-Tube Bottom Barrel: 5.56 Mechanical

20mm: HEM

Hybrid Electronic / Mechanical

- Free Barrel Length: 344mm
- Stacked Barrel Length:
 - 4 Rds 324mm [shown]
 - 6 Rds 486mm

20mm Stacked Barrel

5.56mm Mechanical Barrel



20mm

Stacked-Tube Hybrid

Top Barrel: 20mm Air-Bursting Stacked Rounds

Bottom Barrel: 5.56mm Nato Mechanical Styer Rifle

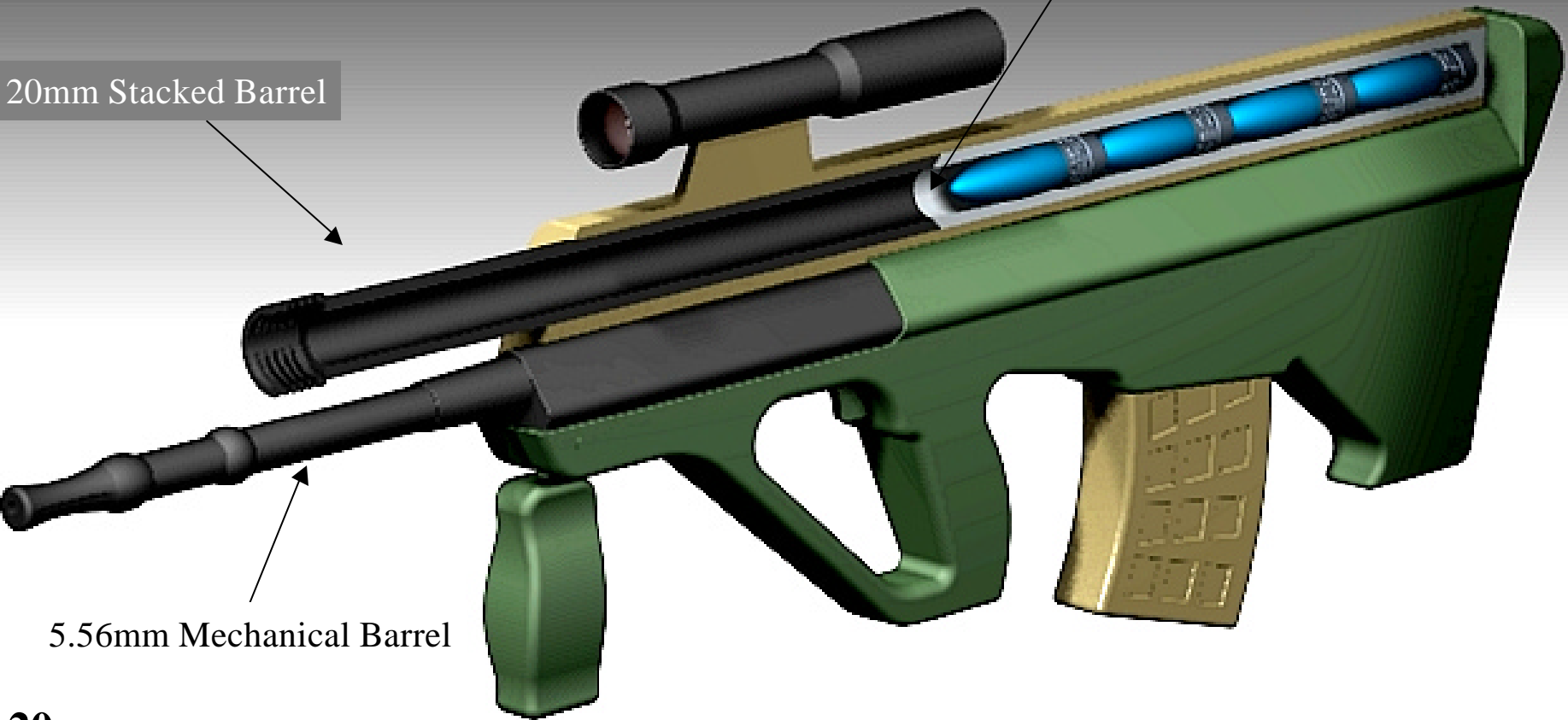
Length: 817.30mm

20mm: HEM

Hybrid Electronic / Mechanical

- Free Barrel Length: 344mm
- Stacked Barrel Length:
 - 4 Rds 324mm [shown]
 - 6 Rds 486mm

20mm Stacked Barrel



5.56mm Mechanical Barrel

20mm

Stacked-Tube Hybrid

Top Barrel: 20mm Air-Bursting Stacked Rounds
Bottom Barrel: 5.56mm Nato Mechanical Styer Rifle
Length: 817.30mm



40mm: HEM

Hybrid Electronic / Mechanical

40mm Stacked Barrel

5.56mm Mechanical Barrel

- Free Barrel Length: 239mm
- Stacked Barrel Length:
 - 4 Rds 376mm [shown]
 - 5 Rds 490mm



40mm

Stacked-Tube Hybrid

Top Barrel: 40mm Air-Bursting Stacked Rounds

Bottom Barrel: 5.56mm Nato Mechanical Styer Rifle

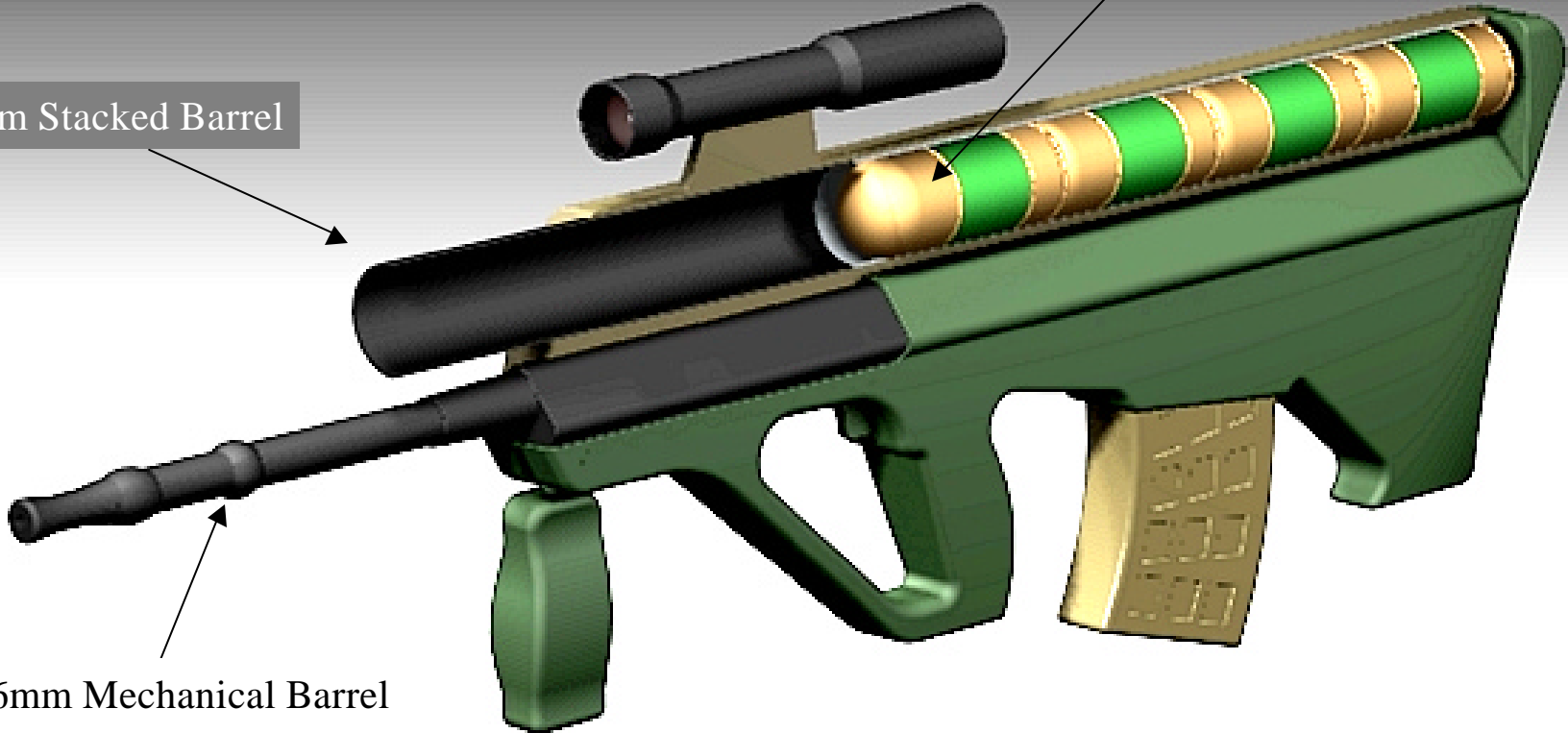
Length: 817.30mm

40mm: HEM

Hybrid Electronic / Mechanical

- Free Barrel Length: 239mm
- Stacked Barrel Length:
4 Rds 376mm [shown]
5 Rds 490mm

40mm Stacked Barrel



5.56mm Mechanical Barrel

40mm

Stacked-Tube Hybrid

Top Barrel: 40mm Air-Bursting Stacked Rounds

Bottom Barrel: 5.56mm Nato Mechanical Styer Rifle

Length: 817.30mm

20/40mm Convertible: HEM

Hybrid Electronic / Mechanical

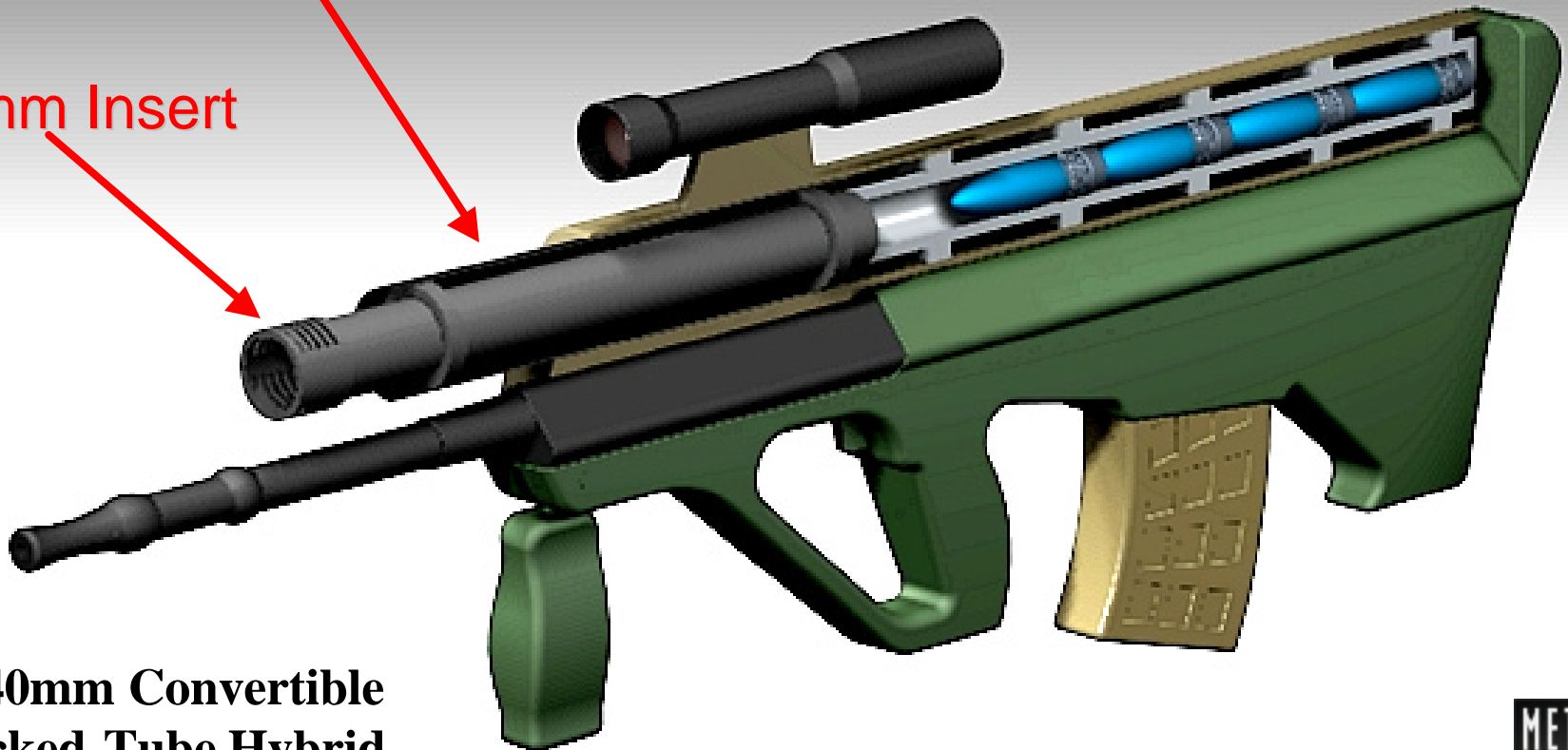
Top Barrel: Interchangeable 20mm / 40mm Stacked Rounds

Bottom Barrel: 5.56mm Nato Mechanical Styer Rifle

Length: 817.30mm

40mm Tube

20mm Insert



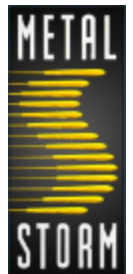
20/40mm Convertible Stacked-Tube Hybrid

Top Barrel: 20/40mm Air-Bursting Stacked Rounds

Bottom Barrel: 5.56mm Nato Mechanical Styer Rifle

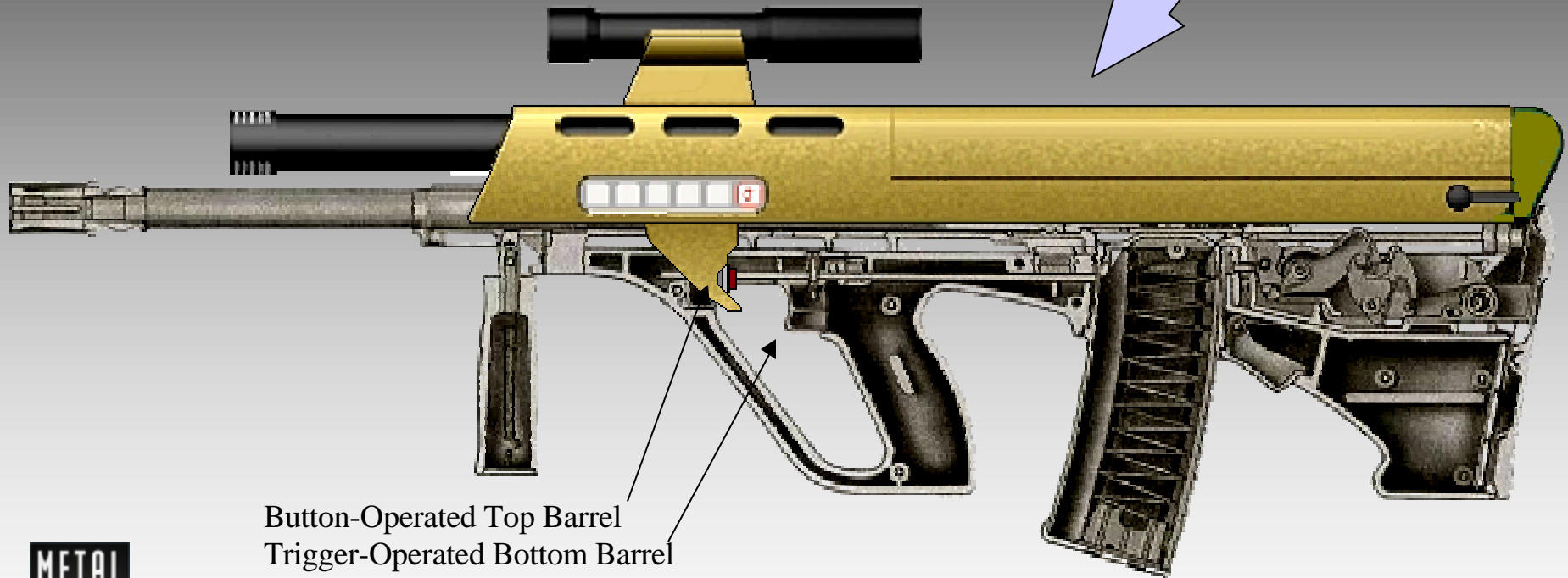
Length: 817.30mm

Metal Storm August 2001

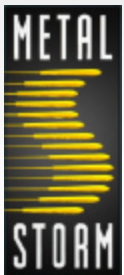


Existing Assault Rifles
can be Converted to AICW Capabilities

- Add-On Capability
- Electrically Operated
- Fully Self Contained



Button-Operated Top Barrel
Trigger-Operated Bottom Barrel



HEM Conversion is **Land Warrior Compatible**

The Weapon

- Light Weight Thermal Sight
- Multifunctional Laser
- Color Daylight Video Sight (DVS)

The Integrated Helmet Assembly (IHAS)

- Helmet Mounted Color Display
- Land Warrior Assault Helmet
- Audio System
- Night Display

The Computer/Radio Subsystem (CRS)

- Comms/Nav Box / GPS / Inertial Nav
- Handheld Flat Panel display
- Secure Voice and Digital Comms

The Software Subsystem

- Common Tactical Picture
- Map: Own / Others Location
- Graphics and Orders
- Power Ops / Video In / Out



[AICW] Advanced Individual Combat Weapon

- Next Generation Capability
- Convertability
- Simplicity



Illustration by Courtesy of DSTO

Hybrid : Top Barrel: 20/30/40mm Stacked-Tube Bottom Barrel: 5.56 Mechanical

METAL



STORM