Abstract ID: **9961**

Title: 40mm Low Velocity Air-Burst Munitions System

Abstract Text: Moving into 21st Century, there are reasons to believe that in the current and future conflicts, fighting in urban terrain is becoming increasingly dominant. This means higher probability of engaging enemies at short ranges.

In urban warfare, infantry soldiers move around in very short distances from building to building and frequently require high–speed dashes around, into, and across dense urban areas. Enemy soldiers will be hard to detect, hidden behind low walls, windows, rooftop or mechanized and the urban terrain will obscure vision which make point detonating round ineffective.

The current M203/M16 combination may not be effective for this type of operating environment as the 40mm LV ammunition may not be accurate enough for urban warfare (e.g. engaging targets behind window or on top of rooftop).

The need for infantry soldiers to have a successful urban operation with higher survivability, less collateral damage and also limit the number of non combatant casualties' in the battlefield. Singapore Technologies Kinetics (a company of Singapore Technologies Engineering) has identified the 40mm Low Velocity Air-Burst Muntion System as the way forward to meet the current and future threats.

The 40mm Low Velocity Air-Burst Munition (LV ABM) System concept is designed to fire from all LV grenade launchers in the world with an upgrade kit (consisting of a fire control system). The laser range finder lase the target and feedback the distance to the FCS computer which compute the fire solution and the fuze's time for transmission. Upon firing, the fuze time is programmed to the projectile when it leaves the muzzle.

The timer in the fuze starts to count down to zero and the projectile detonates at the intended point, spreading highly lethal fragments accurately towards the target. (e.g in front of, above or aside a target)

The Low Velocity Air Bursting Munition System basically encompasses:

- a projectile with a programmable fuze and a lethal warhead and

- a simple and compact Fire Control System (FCS)

The LV ABMS has been typed qualified and serial production is scheduled in second quarter of 2010.

Abstract ID: **9962**

Title: 40mm Medium Velocity Munitions

Abstract Text: Moving into 21st Century, there are reasons to believe that in the current and future conflicts, fighting in urban terrain is becoming increasingly dominant. The current 40mm LV ammunition may not be effective as it is not accurate enough for urban warfare when engaging enemies behind window due to its high flight trajectory.

The need for infantry soldiers to have a successful urban operation with higher survivability, less collateral damage and also limit the number of non combatant casualties' in the battlefield. Singapore Technologies Kinetics (a company of Singapore Technologies Engineering) has identified the 40mm Medium Velocity (MV) Muntions as the way forward to improve the effectiveness of fighting in urban operation when fire from all 40mm Low Velocity (LV) grenade launchers in the world with no modification to the launchers.

This 40mm MV munitions will provide greater hit probability in terms of flatter trajectory at a shorter time of flight, hence quicker engagement. In addition the engagement distance is also extended as compare to the current LV munitions. The innovativeness of this 40mm MV rounds concept is that the cartridge chamber can contain a pressure that can achieve a higher muzzle velocity when fired from a LV grenade launcher without significantly increasing the recoil of the weapon. The system recoil should allow the soldier to fire acceptable number of rounds without physical discomfort.

The MV munitions have been typed qualified and serial production is scheduled in first quarter of 2010.