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ELECTRO OPTIC SYSTEMS ANNOUNCES NEW WEAPON SYSTEMS AND COLLABORATION WITH ST KINETICS ON NEW REMOTE WEAPON SYSTEMS MAINTENANCE CENTRE

Canberra, 30 October 2013

Electro Optic Systems Pty Ltd (ASX: EOS) has completed development of two new weapon systems aimed at the emerging market for increasing the firepower of armored infantry fighting vehicles. The company also announced the completion of a full support depot for remote weapon systems in Singapore.

Weapon Systems

The two new weapon systems, first announced at the Army USA Show in Washington DC [21-23 October 2013] are:

1. ***Remote Turret for 30 mm cannon.*** The remote turret is a new category of product, intended to deploy the 30mm ATK Mk44 cannon in a 1.3 tonne turret. The turret allows precision engagement from a moving vehicle to a moving target.
2. ***“R-400S” Remote Weapon System.*** EOS has upgraded its R-400 [CROWS] RWS to deploy the 30mm ATK M230 LF cannon in a 0.4 tonne system. The new R-400S allows precision engagement up to 2 km from a moving vehicle to a moving target with 30 mm lethality.

Both systems address a rapidly emerging requirement for increased firepower across the entire range of combat vehicles, whether tracked or wheeled, and including lightweight platforms previously equipped with small arms and crew operated weapons such as the M2 12.7mm heavy machine gun.

Armored vehicles have been equipped for more than 80 years with turrets that allow a weapon to be aimed independently of the vehicle's orientation. These turrets have included accommodation for operators in a cylindrical “cage” that is slung under the exposed parts of the turret and rotates with the turret inside the vehicle.

A conventional (traditional) turret requires a large hole in the top armor of the vehicle to insert the cage into the vehicle as the turret is added on top. This creates a weak point in the vehicle's armor and is the most common point of attack. Conventional turrets are heavy and occupy a large amount of space inside the armored vehicle for the operator cage. This requires a large vehicle that is more vulnerable to enemy detection and engagement.

In figure 1 a conventional tank turret is shown. Tank turrets typically deploy 120 mm cannon and weigh more than 25 tonnes. Similar concepts apply for infantry fighting vehicle turrets which deploy 20-40 mm cannon and weigh 3-5 tonnes.

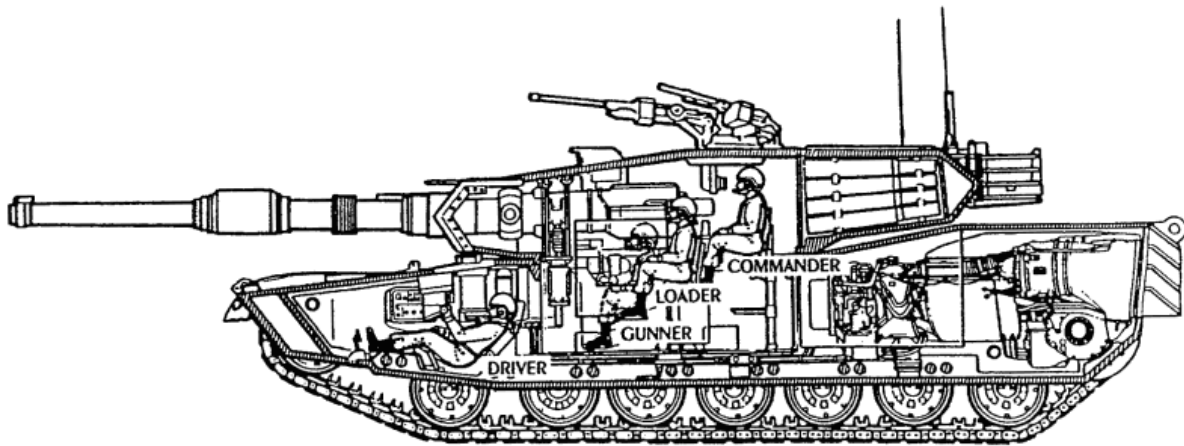


Figure 1: A conventional manned tank turret showing 3 crew who all rotate with the gun position, suspended inside the tank.

EOS has leveraged its remote weapon technology base to develop lightweight [1-2 tonne] remote turrets for lighter vehicles which require cannon. A 30 mm cannon provides double the effective range and armor penetration of the smaller 20/25mm gun. The range and lethality of 30 mm cannon represents a new standard for infantry combat vehicle weaponry.

A remote turret does not require a cage. Operators can be located remotely from the turret itself, either completely below armor or even remote from the vehicle.

A remote turret has the following advantages over a conventional manned turret:

- **Lighter.** Weight savings of 50% are made over a comparable manned turret. Most of this saving is above the vehicle centre-of-mass, aiding vehicle stability.
- **Vehicle Capacity.** A remote turret will occupy no space *inside* the vehicle for a turret cage. This improves communications for the crew. Removal of the cage will save at least 1 linear meter of chassis length and provide significantly greater infantry carrying capacity. This provides compounding savings in weight, drive train, armor protection, logistic support and transport requirements.
- **Profile.** A lower profile reduces detection and hit probability in combat.
- **Top Armor.** The remote turret sits on top of the vehicle top armor, with no penetration required. The turret can actually *reinforce* a key central section of the vehicle roof – typically a weak defensive point.
- **Less Expensive.** The remote turret costs significantly less than a conventional turret.
- **Lower Power.** The remote turret is lighter and therefore requires less power for the same performance as a manned turret.
- **Remote operation.** The weapon and its sensors are by definition remotely operated, and can be used from any location with communications to the vehicle.

The Chief Executive Officer of EOS Dr. Ben Greene said:

“Our remote turret now provides weapon performance and accuracy normally achieved with a 25 tonne manned turret, but for smaller caliber cannon. It can be deployed on vehicles as light as 15 tonnes. It is a flexible platform readily adaptable to the individual turret requirements of customers.”

“The initial configuration of the turret is aimed at the large number of armored vehicles requiring weapon upgrades from 20-25 mm cannon to 30-40 mm cannon, and new

vehicles entering this competition for firepower. It is initially configured with the powerful Mk44 30-40 mm cannon produced by ATK (USA) which has already been selected for service by several existing EOS customers.”

“The global market for this 30-40 mm cannon configuration of the remote turret over the 7 years from 2015 will likely exceed several thousand units and we expect EOS will be amongst the first to achieve full-rate turret production in this market segment. The future requirements of existing users of EOS weapon systems are projected to account for around \$2 billion in product value. We will compete strongly for the requirements of those existing customers as well as new customers.”

“A key customer for EOS is the Australian Defence Force, which will potentially require a mix of remote turrets and weapon systems for next-generation combat vehicles planned for acquisition under its Project Land 400 and other programs. The remotely operated turret has been developed as a platform that can be adapted to meet expected Australian requirements.”

Customer restrictions prevent images of the EOS turret being released at this time.

Also at the Army USA Show in Washington DC EOS unveiled its new R-400S remote weapon system, as shown in Figure 2. The R-400S has been specifically developed to provide 30 mm firepower in a high precision weapon system, weighing less than 350 kg.



Figure 2: R-400S mounting the ATK M230LF 30 mm cannon. The weapon system is itself mounted on a Northrop Grumman CaMEL military robot.

The R-400S provides precision engagement using lightweight 20-30 mm cannon, to allow light vehicles to deploy unprecedented firepower. For example the ATK M230LF 30 mm cannon is a much lighter 30 mm cannon than the Mk44 30 mm deployed on the EOS turret, and has an effective range of 2 km compared to at least 4 km for Mk44.

Remote Weapon System Support Centre in Singapore

EOS and Singapore Technologies Kinetics Ltd (ST Kinetics) have jointly completed a new maintenance and support facility for remote weapon systems (“RWS”) in Singapore. The facility, formally opened by the Australian High Commissioner to Singapore, Mr. Phillip Green, is called the STK-EOS RWS Centre.

At the inauguration of the RWS Centre, the President of ST Kinetics, Mr. Sew Chee Jhuen said:

“ST Kinetics and EOS have a long history of cooperation in RWS and today we inaugurate a new RWS Centre in Singapore.

“The RWS Centre now established in ST Kinetics’ Jalan Boon Lay facility is one of the most advanced support facilities ever deployed in Asia for remote weapon systems. It will provide advanced support for ST Kinetics and EOS weapon systems for the region.”

Also at the Centre’s inauguration in Singapore, Dr. Ben Greene said:

“The collaboration with ST Kinetics is a strong example of EOS’s business model, which engages key partners in different aspects of our defence business ranging from product design to production and support. Today we inaugurate ST Kinetics’ new RWS Centre to provide support to EOS and ST Kinetics’ weapon systems in this region.”

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ABOUT ELECTRO OPTIC SYSTEMS (ASX: EOS; OTC: EOPSY)

EOS is an Australian aerospace company. EOS develops and produces products incorporating advanced electro-optic technologies for the global aerospace market.

EOS products are developed through internal research and development programs based on EOS core technologies in software, lasers, electronics, optics, gimbals, telescopes and beam directors, optical coatings, precision mechanisms and highly ruggedized assemblies.

EOS employs around 100 staff globally. It has research centres in Australia, the US and Germany, and has production facilities in Australia and the US.

EOS operations are divided in two sectors: **Space Systems** and **Defence Systems**.

Defence Systems

EOS is a key global company in the market for remotely weapon systems [RWS] and autonomous military surveillance and combat systems.

Over 1,000 RWS from EOS have been sold or deployed overseas. EOS currently produces around 20% of all new RWS contracted by open tender globally. Product configurations sold have been for naval weapon systems, armoured vehicle turrets and remote controlled highly mobile weapon systems. EOS is a major development centre for major RWS users globally.

The Company's RWS product family is based on a common module set and fully-qualified fire control software. These modules include high resolution cameras, thermal vision systems, image processing systems, computer systems, laser systems, sensor systems and power management systems, all qualified for the harsh military environment. Over 90% of all EOS research and development for RWS is performed in Australia.

Space Systems [SSA]

The EOS space Systems sector focuses on both commercial and defence requirements for space information. EOS specializes in obtaining space information based on the use of EOS-developed optical instruments and sensors to detect, track, classify and characterise objects in space. This information is required for both military and commercial space applications.

ABOUT SINGAPORE TECHNOLOGIES KINETICS LIMITED

ST Kinetics is the land systems and specialty vehicles arm of Singapore Technologies Engineering Ltd. It is one of Asia's leading land systems and specialty vehicles companies, delivering smart engineering solutions since 1967 for the commercial, defence and homeland security markets. With more than 7,000 employees worldwide and revenue of over S\$1.53b in FY2012, ST Kinetics delivers products and solutions to end users in more than 40 countries around the world; helping to maintain the peace of nations and increasing the productivity of businesses involved in earthmoving, road construction and goods distribution. Please visit www.stengg.com.