



# Javelin Launches Infantry Weapons To New Level

The ten million euro investment by the Government in the Javelin anti-armour weapons system represents a massive purchase of cutting edge military technology. Able, at time of going to press, to penetrate all know modern armour on the battlefield, it is arguably the best weapon of its type currently in existence. Since its arrival into the Infantry Weapons Wing (IWW), the Javelin system has provided the army with a robust and easy to use system which greatly enhances their training procedures and operational capability at home and overseas.

"When the Defence Forces opted for the Javelin system in 2003, it represented the manufacturers (Raytheon/Lockheed Martin) first sale to a neutral non-aligned nation," says Commandant Tom O'Keeffe, the Chief Instructor of the Infantry Weapons Wing. "Since we have purchased it, at least seven other nations have selected the system, including the UK and Australia. Like any new weapons system, we need time to discover the best way to utilise it for our purposes, but this is a system which we firmly believe in and it represents a massive increase in our anti armour capability," adds Comdt O'Keeffe.

Howard Weaver, Vice President of the Javelin joint venture, agrees; "Ireland's detailed evaluation process included assessments of whole life costs and worldwide supportability. Javelin's high reliability, worldwide support and very low operational and maintenance costs were key factors."

The Defence Forces purchased 30 Command Launch Units (CLU) for the Javelin system and carried out its first live firing successfully in



the Glen of Imaal this year.

So how does Javelin work? Javelin is referred to as a “fire-and-forget” system, so called because it allows the gunner to lock onto a target via its thermal image signal, fire the missile and the electronics will guide the missile to its target; the gunner can then move position or engage another target. The fact that it uses thermal imagery is a major move forward for our anti-armour capabilities as thermal imaging permits 24/7 surveillance of the theatre of operations to a range of 3km in all weather conditions.

A single eyepiece displays images of the battlefield, allowing gunners to find targets at extended range. The gunner then places the cursor box over the target and confirms the missile lock before launching the missile. Javelin boasts a soft-launch feature which means little recoil and reduced overpressure from the launching missile thereby creating a minimal launch signature. The technology of the CLU and the missile is more technologically advanced compared to the previous anti-armour missile system used by the Defence Forces; the MILAN semi-automatic wire-guided missile.

The staff of the IWW have designed and conducted special conversion courses for those officers who had expertise in the MILAN system previously. Currently in the Infantry Weapons Wing they are conducting specialist training of officers and NCOs who have no prior expertise in anti-armour weapons; these will be the future anti-armour platoon commanders, platoon sergeants and instructors on the Javelin in the Defence Forces.

The anti-armour capabilities of the Javelin are enhanced by the missiles attack modes, direct or top attack. The different attack

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*The Javelin system in action with Defence Forces personnel.*

modes are designed to defeat different targets. “Javelin’s capabilities extend beyond anti-armour and direct attacks can be used to engage covered targets, bunkers, buildings and even helicopters,” adds Comdt O’Keeffe. Its top attack mode arches over armoured targets to defeat them. In addition, it can also effectively defeat modern advanced armour technology, such as reactive armour which is used to enhance the strength and protection of modern tanks. The Javelin’s tandem warhead contains a precursor warhead designed to clear away explosive reactive armour while the main shaped charge warhead will defeat current base armour and projected armour threats. It has an optimum range of 2500 metres, though American troops have reported successful deployment at much further distances, over 3000 metres, on battlefields in Iraq and Afghanistan.”

The see-saw competition between the strength of modern tank armour versus the penetrating ability of anti-armour missiles has gone on for decades, but as Comdt O’Keeffe explains, current armoured vehicle needs, such as tanks and armoured personnel



carriers, must be balanced against the equal need for battlefield mobility. “Currently, it’s hard to see how battlefield armour could be improved upon unless mobility was to be heavily compromised. That’s why Javelin is such an advanced and capable weapons system.”

While a live shoot has been conducted using the system, it is in the Javelin simulator where most IWW personnel become familiar with the weapon. The Enhanced Productivity Basic Skills Trainer (EPBST) is an indoor/outdoor training device. The trainer consists of a student station and an instructor station. The instructor can submit the student to training exercises using real time terrain from visible and infra-red imagery and 3D target models that simulate real armour. The student, acting as the gunner reacts to the scenarios presented. The instructor can observe the students reactions via their own control station.

The Javelin, while without doubt the most advanced weapon system for the infantry, is still only part of the overall range of advanced infantry weapons that the Infantry Weapons Wing conduct expert training in. “In addition to the Javelin, we conduct specialised and expert training of military personnel in other anti-armour systems, light and medium mortars, heavy machine guns, general purpose machine guns, sniper training and expert battlefield reconnaissance training. We also monitor and evaluate new developments internationally in specialist infantry weapons.

“The addition of Javelin is something which is a massive boost for the infantry. We are constantly analysing how it can best be use the system based on operational and training lessons and international doctrinal developments. But it will make a definite operational difference for us.”

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*The Javelin is currently the most potent anti-armour system in the world.*