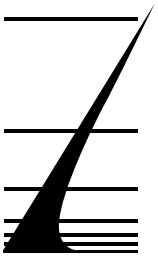
The Market for Man-Portable Anti-Armor and Bunker Buster Weapons

Product Code #F654

A Special Focused Market Segment Analysis by:



FORECAST INTERNATIONAL

Analysis 2
The Market for Man-Portable Anti-Armor and Bunker Buster Weapons

Table of Contents

* * *

PROGRAMS

The following reports are included in this section: (**Note:** a single report may cover several programs.)

Alcotan-100
APILAS
Armbrust
AT4/M136 and AT12T
B-300/Mk 150 SMAW
C-90 Series
Carl Gustaf M2/M2-550/M3
FT5
M72
M141 Bunker Defeat Munition
MBT Law
Panzerfaust 3/Bunkerfaust
RPG-7 and RPG-16
RPG-18/RPG-22/RPG-26/RPG-27
RPG-29
RPG – 75
Wasp

Introduction

While most armies now consider the Cold War scenario of massed NATO and Warsaw Pact armored formations slugging it out in central Germany as a thing of the past, the role of the man-portable anti-armor and bunker buster weapon has not diminished. Indeed, the light anti-armor weapon is arguably even more important in this era of evolving threat scenarios and combat doctrines.

Historical Perspective. The man-portable anti-armor weapon, firing a rocket-propelled shaped-charge warhead, is essentially a product of Second World War attempts to find a light and effective weapon to deal with tanks and armored vehicles. From the start, development in this field exhibited two distinct design philosophies:

- Reusable weapons featuring reloadable launch tubes, capable of firing a variety of munitions. Armies regard these systems as individual weapons that fire separate ammunition.
- Expendable single-use weapons with disposable launch tubes. Armies generally issue these weapons as separate rounds of ammunition.

The Bazooka

In June 1942, the United States introduced the world's first operational man-portable anti-armor rocket launcher, the 2.36-inch (60mm) M1 Bazooka. This reloadable weapon went from the drawing board to combat service in only 30 days. Throughout the war, the U.S. Army introduced a series of product-improved models:

- The improved M1A1 in August 1943
- The M9 in June 1943, which represented a major redesign and improvement of the original weapon
- The M9A1 in September 1944

Panzerschreck and Panzerfaust

In 1943, the German Wehrmacht introduced its own man-portable anti-armor rocket launchers. In early 1943, the Wehrmacht began development of the 88mm (3.46-in) Raketen-Panzerbüchse 43 (RPzB43) Panzerschreck based on the design of a captured American Bazooka. Like the Bazooka, the Panzerschreck featured a reloadable launch tube firing a rocket-propelled warhead. In August of that year, the Wehrmacht also began fielding the single-use Panzerfaust. This simple weapon fired a 140mm (5.5-in) warhead from a disposable 44mm (1.73-in) launch tube.

M72 LAW vs RPG-7

By the 1950s, development had begun of two man-portable anti-armor weapons that continue to define the market:

- In 1959, the U.S. Army awarded the development contract for the 66mm (2.6-in) M72 LAW, a disposable replacement for the Korean War-era 88.9mm (3.5-in) M20 Bazooka.
- In the late 1950s, the Soviet Union began development of the reusable RPG-7 (Ruchnoy Protivotankoviy Granatomet-7), a replacement for the earlier RPG-2.

Both weapons entered production in the 1960s; by the 1970s, they had become the international standards for light anti-armor weapons on their respective sides of the Iron Curtain. Both the M72 LAW and the RPG-7 represent watershed events in the development of man-portable anti-armor weapons, as each reflects a fusion of design philosophies. In the M72 LAW, we see the adaptation of the basic reusable Bazooka design philosophy in a disposable launch tube configuration. On the other hand, the RPG-7 features the reusable launch tube approach of the Bazooka and Panzerschreck, combined with the over-caliber warhead of the disposable German Panzerfaust.

The International Standards

While hardly state-of-the-art by today's standards, the M72 LAW and RPG-7 have set the international standards for man-portable anti-armor and bunker buster weapons on the modern battlefield. The basic M72 LAW remains the basic design concept for most disposable anti-armor and bunker buster weapons available on the international market. During the Cold War, the Soviet Union distributed massive amounts of munitions and equipment worldwide in support of so-called wars of national liberation. Consequently, the RPG-7 (like the AK-47 Kalashnikov) has become virtually iconic of countless insurgencies. Indeed, the RPG-7 continues to see extensive use in the hands of terrorists in Iraq.

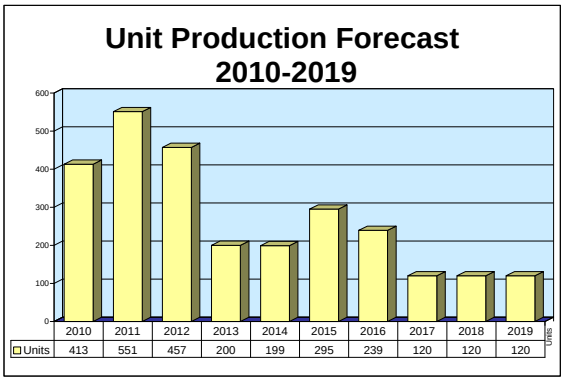
Today's Market. In the United States and the United Kingdom, ground combat doctrine is currently in a state of flux. The American and British Force Transformation concepts envision fielding a medium force option of light, rapidly deployable, and highly mobile ground weapons systems. New medium-force units such as the Stryker Brigade Combat Teams (SBCTs) rely as heavily

Continued…

B-300/Mk 150 SMAW

Outlook

- August 2008: U.S. Marine Corps awarded Nammo Talley an SDD/LRIP contract for SMAW II launchers and Fire From Enclosure (FFE) rounds
- Production forecast reflects new B-300 and SMAW II launchers only; forecast does *not* include procurement of ammunition



Orientation

Description. Man-portable anti-armor and bunker-busting weapons.

Sponsor. The Israel Ministry of Defense sponsored the development, and the Israel Defense Forces (IDF) the procurement, of the B-300.

The U.S. Marine Corps sponsors the development and U.S. procurement of the Mk 150 SMAW.

Status. Development through as-needed serial production.

Total Produced. Through 2009, we estimate the contractors produced 6,597 B-300 launchers and 1,969 SMAW launchers.

Application. Lightweight, man-portable, shoulder-fired weapons systems, optimized for employment by infantrymen on the move. The U.S. Marine Corps employs the SMAW mainly against bunkers, fortifications, and buildings.

Price Range. In 2004 U.S. dollars, the complete B-300 (reusable launcher and one round) carried a unit price of $9,321 for IDF procurement.

In FY87 U.S. dollars, SMAW launchers carried a unit price of $8,224 for U.S. Marine Corps procurement.

In FY06 U.S. dollars, the 83mm Mk 3 Mod 0 HE Dual Purpose (HEDP) rocket carried a unit price of $1,886 for U.S. Marine Corps procurement.

In a December 2006 contract, the SMAW-NE encased assault rocket carried a unit price of $4,700 for U.S. Marine Corps procurement.

According to U.S. Navy FY11 budget request documentation (February 2010), the 83mm HEAA Practice rocket for the SMAW carries an FY11 unit price of $2,299 for U.S. Marine Corps procurement.

The SMAW II launcher carries an FY11 unit price of $105,615. The SMAW II Fire From Enclosure (FFE) round costs $10,204.

Contractors

Prime

Israel Military Industries Ltd (IMI)	http://www.imi-israel.com, PO Box 1044, Bialik St 64, Ramat Hasharon, 47100 Israel, Tel: + 972 3 548 5617, Fax: + 972 3 548 6125, Email: imimrktg@imi-israel.com, Prime
Nammo Talley Defense Inc, (formerly Talley Defense Systems)	http://www.talleyds.com, 4051 N Higley Rd, PO Box 34299, Mesa, AZ 85277-4299 United States, Tel: + 1 (480) 898-2200, Fax: + 1 (480) 898-2358, Email: nduke@talleyds.com, Prime

Comprehensive information on Contractors can be found in Forecast International's "International Contractors" series. For a detailed description, go to www.forecastinternational.com (see Products & Samples/Governments & Industries) or call + 1 (203) 426-0800.

Contractors are invited to submit updated information to Editor, International Contractors, Forecast International, 22 Commerce Road, Newtown, CT 06470, USA; rich.pettibone@forecast1.com

Technical Data

B-300

Dimensions. The following data reflect the latest production-standard B-300 launcher.

	SI Units	U.S. Units
Projectile length	72.5 cm	28.54 in
Total length (loaded)	1.35 m	4.42 ft
Projectile diameter	82 mm	3.23 in
Total diameter	8.8 cm	3.46 in
Projectile weight	3.5 kg	6.82 lb
Total weight (loaded)	8.0 kg	17.82 lb
Finspan	28.7 cm	11.29 in
Cone stand-off	5.2 cal	5.2 cal

Performance. The armor perforation data reflect IMI's published literature, depicting the latest Mk 2 High Explosive Anti-Tank (HEAT) round striking armor angled at 65 degrees, at optimal range.

	SI Units	U.S. Units
Speed	295 mps	967.84 fps
Altitude	line of sight	line of sight
Range	250 m	273.41 yd
Armor perforation	55 cm	21.65 in

Mk 150 SMAW

Source: U.S. Marine Corps

Mk 150 SMAW (Shoulder-Launched Multipurpose Assault Weapon)

Dimensions. The following data reflect the production-standard SMAW launcher, carrying the Mk 118 Mod 0 DM warhead.

	SI Units	U.S. Units
Projectile length	72.3 cm	28.46 in
Total length (loaded)	1.375 m	54.13 in
Projectile diameter	83 mm	3.27 in
Total diameter	8.9 cm	3.51 in
Projectile weight	3.3 kg	7.26 lb
Total weight (loaded)	13.4 kg	29.48 lb
Finspan	28.7 cm	11.29 in

Performance. We develop the following armor perforation data by applying a modification of our standardized formula for HEAT warheads to the SMAW's DP warhead. The SMAW warhead is not optimized for armor perforation.

	SI Units	U.S. Units
Speed	295 mps	967.84 fps
Altitude	line of sight	line of sight
Range	250 m	273.41 yd
Armor perforation	12 cm	4.72 in

Propulsion. Both systems use the B-300 solid-fuel rocket propulsion unit, consisting of a number of M7 (U.S. designation) double-base propellant sticks bonded to a pin plate.

Launcher Mode. The B-300 and SMAW warheads launch from a reusable glass-fiber/epoxy tube with an attached sighting unit and firing mechanism.

Control & Guidance. Eight ring-mounted, spring-out metal fins deploy upon exiting the launch tube to provide aerodynamic stabilization for the warhead in flight.

Warhead

B-300. Four basic 82mm warhead types are available for the B-300 launcher:

- *Mk 1.* High Explosive (HE) warhead, which is not optimized for maximum armor perforation. IMI modified the Mk 1 HE warhead for general-purpose use and slightly enhanced it for armor perforation by integrating a HEAT dart.
- *Mk 2.* HE warhead, featuring a much higher degree of armor perforation.
- *HEAT Follow Through.* HEAT warhead with a secondary charge that enters the target through a hole made by the HEAT charge. Essentially a tandem warhead.
- *Training Round.* Features an impact market component.

In addition to the training round, a subcaliber device (which employs a standard 9x19mm Parabellum pistol cartridge) is also available.

SMAW. Talley offers five basic 83mm warhead types for the SMAW:

- *Follow-Through Grenade (FTG).* Features a shaped-charge front warhead with a full-caliber follow-through grenade for use against brick and concrete walls.
- *Common Practice Round (CPR).* Inert training round with full-caliber rocket. Duplicates weight, center of gravity, and flight characteristics of live rounds.
- *HE Dual Purpose (HEDP).* Features target-sensing fuze for optimum detonation.
- *HE Anti-Armor (HEAA).* Penetrates heavy armor from oblique angles.
- *Novel Explosive (NE).* Dual-purpose, dual-safe, self-discriminating warhead, optimized for urban environments.

Variants/Upgrades

Variants. To date, IMI has not offered any variants of the basic B-300 launcher. In the U.S., three variants of the Mk 150 Shoulder-Launched Multipurpose Assault Weapon (SMAW) concept have emerged, as follows:

Designation	Description
Lightweight SMAW	CMS Defense Systems Inc (Titusville, FL) is reportedly developing a lightweight version of the SMAW launcher as a private venture. However, as this firm (a former subcontractor for the SMAW program) no longer has any contractual or marketing rights for the SMAW, we do not expect further activity on this program.
SMAW-D	In 1985, the U.S. DoD initiated development of a disposable SMAW variant, the SMAW-D. This version, weighing 6.3 kilograms (13.86 lb), fires the same rocket munitions as the original SMAW model.
M141 Bunker Defeat Munition	In 1991, Talley Defense Systems joined (then) McDonnell Douglas Astronautics in the further integration of the various SMAW warheads with the launcher Talley developed for the Multipurpose Individual Munition program. The contractors intend to develop an "Interim MIPM," or Bunker Defeat Munition. For more information on this program, see the "M141 Bunker Defeat Munition" report in this tab.

Modernization and Retrofit Overview. Between October 1999 and February 2001, the Naval Surface Weapons Center (Crane, Indiana) reportedly replaced a glass-fiber launch tube on an undisclosed number of SMAW launchers. Any other modernization and retrofit for the SMAW will be limited to the development of new munitions.

SMAW 83mm Ammunition Types

Source: Nammo Talley

Program Review

Background. In the late 1970s, Israel Military Industries Ltd began developing the B-300 in response to an Israel Ministry of Defense requirement for an indigenous anti-armor assault weapon optimized for infantry use. Production of the B-300 commenced in 1980. IMI completed the serial production run for the Israel Defense Forces (IDF) in 2004. The combat-proven B-300 is still available for follow-on IDF orders and export.

Description. The B-300 weapon system consists of two basic components:

- The projectile, which comes packaged in a glass-fiber/epoxy tube used as a launch tube.
- The reusable launcher, which features a retractable shoulder rest, folding bipod, pistol grip, rear battle sight, telescope mount, and the firing mechanism/grip assembly.

While the B-300 mounts a simple battlesight for emergency use, the operator usually employs a stadia-type sighting telescope, which is interchangeable with a PVS-2 night vision device.

Sequence of Operation

The operator carries the launcher and two or three rounds in disposable launch tubes. To ready the B-300 for operation, the operator inserts a round into the rear of the launch tube. Electrical contact between the launcher and the round in its tube is automatic. After acquiring the target, the operator fires the weapon. The rocket motor burns out before exiting the launcher at a velocity of 295 meters per second (967.84 fps). After firing, the operator disconnects the launch tube from the launcher and discards the expended launch tube. Loading, sighting, and firing the B-300 takes less than 20 seconds.

Pressure from the motor firing initiates the warhead arming process; a mechanical timer completes the process after the warhead travels 15 meters (49.2 ft) down-range of the launcher. The warhead self-destructs upon impact. At a 250-meter (273.4-yd) range, hit probability is 90 percent.

Enter the Mk 150 SMAW

In the late 1970s, the U.S. Marine Corps began the study of a multipurpose shoulder-fired weapon system, the Mk 150 Shoulder-Launched Multipurpose Assault Weapon (SMAW). Originally, a program similar to the now-defunct Viper, the SMAW program explored a number of domestic and international systems. In May 1982, the U.S. Marine Corps selected the B-300; McDonnell Douglas (the U.S. licensee for the B-300) secured an $11 million full-scale engineering development and production contract.

Serial production began in 1983, with initial deliveries starting in February 1984. By the time deliveries under the initial contract were completed in 1987, the U.S. licensee had delivered 1,828 Mk 153 launchers to the U.S. Marine Corps, plus an additional 120 launchers for use by the U.S. Army's XVIII Airborne Corps (Fort Bragg, North Carolina). Development and production of ammunition continue.

Changing Hands

In 1994, Talley Defense Systems (Mesa, Arizona) acquired the development/production license and control of the entire SMAW program. In April 2007, Nammo AS (Raufoss, Norway) acquired Talley Defense Systems. The U.S. contractor continues to operate as Nammo Talley, a component of the Nammo Group.

SMAW II and FFE

In August 2008, the U.S. Marine Corps Systems Command awarded Nammo Talley, Inc a $51,764,684 cost-plus-fixed-fee with fixed-price incentive contract for the system development and demonstration (SDD) and low-rate initial production (LRIP) of SMAW II launchers and Fire From Enclosure (FFE) assault rounds. The SDD phase specifies 18 SMAW II launchers and 165 FFE assault rounds; the LRIP phase specifies 130 SMAW II launchers and 750 FFE assault rounds. The expected date of completion is February 2011 (February 2012 with options exercised).

B-300 & SMAW Not the Same

While exhibiting an external configuration like the B-300, the American-redesigned launcher (designated the Mk 153) differs significantly from the Israeli system. The Shoulder-Launched Multipurpose Assault Weapon launcher features a 9x19mm spotting rifle similar to that of the LAW 80. Indeed, the Royal Small Arms Factory at Enfield (Middlesex, U.K.) developed the SMAW spotting rifle. The spotting rifle offers the advantage of greatly simplified target acquisition and enhanced probability of hit. The SMAW launcher is reusable for at least 100 shots.

The original Mk 1 projectile, while using the B-300 propulsion unit, features an American-designed multipurpose warhead, reflecting the originally specified assault application of the weapon. The warhead has proven highly effective against reinforced concrete, sandbag and timber bunkers, brick and block walls, and lightly armored vehicles.

In mid-1998, the U.S. Marine Corps reportedly began planning to first upgrade and then replace its 1,828 Mk 153 SMAW weapons in order to provide the SMAW with a credible anti-armor capability. During Operation Desert Storm (1991), troops employed the SMAW primarily as a "bunker buster."

Better at Bunker Busting

The Israeli B-300 and the Shoulder-Launched Multipurpose Assault Weapon are, at best, effective bunker busters, with only a moderate anti-armor capability. The warhead technology currently employed by these weapons is effective only against non-explosive reactive armor.

The B-300 and SMAW are not primarily anti-armor weapons. They are actually multipurpose assault weapons, a class of weapon gaining significant interest on the international market. While we do not expect the B-300 and SMAW to garner any major new export sales, the basic weapon design will likely become the technological basis for new designs.

B-300/Mk 150 SMAW

Related News

Officials Examine Fate of Post-Afghanistan Marine Corps – The Marine Corps is assessing how its size and structure will change after the service leaves Afghanistan, assuming there are no infantry battalions engaged in sustained combat operations elsewhere, according to Navy Undersecretary Bob Work. A Force Structure Review Group will carry out the study with input from outgoing commandant Gen. James Conway, and Gen. Jim Amos, the current assistant commandant of the Marine Corps and nominee to replace Conway. The study will consider requirements in the Quadrennial Defense Review (QDR), as well as other lessons learned from years of combat in Iraq and Afghanistan.

The group will establish the proper size and organization of the Marine Corps. The results, which are expected to be released in November or December, will be vetted within the Navy and the Department of Defense. Concrete changes in the service's force structure and organization could appear in the Marine Corps' FY13 budget plan, according to Work. "All of the changes are going to be conditions based on what happens in Afghanistan," Work said. "If we're still hard in the fight, then the Marine Corps will stay focused on that fight. But we'll at least be thinking about what the Marine Corps might look like."

Work said the Marine Corps will shift back to its amphibious roots, will equip its troops with more equipment to prevent capability gaps, will be more energy efficient, will increase its reliance on unmanned vehicles, and will utilize lighter gear and vehicles. (*Marine Corps Times*, 8/10)

QDR Panel Calls for More Force Structure Changes – The Defense Department must plan to maintain recent additions to the ground forces for the foreseeable future and boost its long-range strike, maritime, and cyber capability to confront global trends and threats, the Quadrennial Defense Review Independent Panel told Congress.

William Perry and Stephen Hadley, who co-chair the bipartisan panel, told the Senate Armed Services Committee the 2010 QDR needs to go a step further in providing a force-planning construct to shape the Defense Department for the next 10 to 20 years.

They also recommended that Defense Secretary Robert M. Gates establish a new commission on military personnel to reconsider long-standing practices that they called economically unsustainable.

Perry, who served as President Bill Clinton's defense secretary, said the military likely will need to sustain recent end-strength increases in the Army and Marine Corps for the long term as it focuses on building force structure within the Air Force and Navy. The Air Force has "about the right force structure," he said, but needs to augment its long-range strike capability. Perry also noted the need to boost the Navy, particularly to sustain free transit in the Western Pacific.

In addition, the Defense Department must be prepared to assist civil departments in the event of a cyber attack, Perry said, recommending that a portion of the National Guard be dedicated to the homeland security mission.

These requirements come on top of a major recapitalization required of U.S. forces, part of it due to wear and tear on equipment used in Iraq and Afghanistan, he said. "What we have described as a need will be expensive," Perry conceded. "But deferring recapitalization could entail even greater expenses in the long run."

Perry cited the success of the all-volunteer force but said dramatic cost increases in recent years to support it can't be sustained long term. "We believe we must seriously address those costs, and that failure to do so would lead either to a reduction in force or a reduction in benefits or some way of compromised all-volunteer force – none of which is desirable," he said.

Perry recommended that Gates establish a commission to evaluate the Tricare military health plan and other benefits, expected service lengths, the "up-or-out" policy, and other long-standing personnel practices. Emphasizing cash upfront instead of future benefits is one issue the commission should consider, he said. While acknowledging that these "are all big issues and all very politically sensitive," Perry said it's critical that they be addressed to face the future.

Hadley, who served as President George W. Bush's national security adviser, reported the five gravest potential threats likely to arise over the next generation: radical Islamic extremism and the threat of terrorism; the rise of new global powers in Asia; the continued struggle for power in the Persian Gulf and greater Middle East; accelerating global competition for resources; and failed and failing states.

"The current trends are likely to place an increased demand on American hard power to preserve regional balances," he said. But Hadley also cited a unique opportunity to develop and adapt institutions to confront these challenges. "We have various tools of smart power, diplomacy, engagement, trade, communications about Americans' ideals and intentions," Hadley told the committee. "And these will increasingly be necessary to protect America's interests."

Hadley echoed Gates' call for stronger "soft-power" capabilities, and recommended structural and cultural changes within the government so nonmilitary branches can assume a larger role in protecting national interests.

To promote this effort, Hadley called for Congress to consider establishing a single national security appropriations subcommittee and a coordinated authorization process between relevant committees.

He also recommended the president and Congress establish a national commission to build the civil force for the future and provide a blueprint so civilian departments and agencies are better postured to deploy overseas and work cooperatively with military forces in insecure security environments. (U.S. Department of Defense, 8/10)

Funding

The following table reflects U.S. Department of Defense FY11 budget request documentation (February 2010) for U.S. Marine Corps procurement under the SMAW program. All amounts are in U.S. dollars.

U.S. FUNDING

	FY07 QTY	FY07 AMT	FY08 QTY	FY08 AMT	FY09 QTY	FY09 AMT
Procurement						
U.S. Marine Corps						
Rocket, 83mm HEDP	-	0.03	-	-	-	-
Rocket, 83mm SMAW-NE	-	0.11	-	-	-	-
Rocket, 83mm HEAA	-	0.81	-	1.83	-	-
Rocket, 83mm HEAA Practice	-	-	-	-	1,107	2.05
FOTS/SMAW II	-	-	-	-	-	-
Total:	**-**	**0.95**	**-**	**1.83**	**1,107**	**2.05**

	FY10 QTY	FY10 AMT	FY11 QTY	FY11 AMT	FY12 QTY	FY12 AMT
Procurement						
U.S. Marine Corps						
Rocket, 83mm HEDP	-	-	-	-	-	-
Rocket, 83mm SMAW-NE	-	-	-	-	-	-
Rocket, 83mm HEAA	-	-	-	-	-	-
Rocket, 83mm HEAA Practice	1,401	2.60	1,209	2.78	-	-
FOTS/SMAW II	-	-	-	21.6	-	64.3
Total:	**1,401**	**2.60**	**1,209**	**24.38**	**-**	**64.3**

	FY13 QTY	FY13 AMT	FY14 QTY	FY14 AMT	FY15 QTY	FY15 AMT
Procurement						
U.S. Marine Corps						
Rocket, 83mm HEDP	-	-	-	-	-	-
Rocket, 83mm SMAW-NE	-	-	-	-	-	-
Rocket, 83mm HEAA	-	-	-	-	-	-
Rocket, 83mm HEAA Practice	-	-	-	-	-	-
FOTS/SMAW II	-	34.5	-	21.2	-	20.0
Total:	**-**	**34.5**	**-**	**21.2**	**-**	**20.0**

B-300/Mk 150 SMAW

Contracts/Orders & Options

Israeli contract information for the B-300 is not available.

The U.S. Marine Corps continues to procure 83mm rockets for the SMAW under a March 2003 Naval Surface Warfare Center (NSWC) contract with Talley Defense Systems. The original contract (N00178-00C-1016), worth $8,867,704, was for the procurement of 6,091 Mk 3 Mod 0 rockets; the contract has since effectively evolved into an open-ended agreement.

On December 8, 2004, the NSWC awarded Talley Defense Systems (Mesa, AZ) a contract modification worth $7,033,795 to exercise an option for production of 4,067 SMAW HEDP encased assault rockets.

On December 6, 2006, the Marine Corps System Command Program Manager for Ammunition (Quantico, VA) awarded Tally Defense Systems a $14,121,599 firm-fixed-price contract for the manufacture and delivery of 3,000 SMAW-NE encased assault rockets.

On August 22, 2008, MARCORSYSCOM awarded Nammo Talley a $51,764,684 cost-plus-fixed-fee contract for the systems development and demonstration (SDD) and low-rate initial production (LRIP) of the SMAW II launcher and Fire From Enclosure (FFE) assault rounds, with associated data rights. The SDD phase specifies 18 launchers and 165 FFE rounds; the LRIP phase specifies 130 launchers and 750 FFE rounds.

On March 31, 2010, MARCORSYSCOM awarded Nammo Talley a $10,222,340 modification to previously awarded contract (M67854-08-C-1123) under contracting line item number 0001 for system development and demonstration of the next-generation Shoulder-Launched Multipurpose Assault Weapon (SMAW II) program. This modification is for the contractor to implement additional efforts required to design, develop, integrate, test, produce and prepare associated documentation; provide logistical support; provide technical support; and deliver the SMAW II system.

Timetable

The following reflects the B-300 and SMAW only, and does not reflect any variants (such as the SMAW-D).

Month	Year	Major Development
	1974	B-300 development begun
	1978	U.S. DoD initiates SMAW program; McDonnell Douglas wins competition
	1980	B-300 production starts in Israel
Late	1980	Operational tests of SMAW completed
May	1982	McDonnell Douglas wins SMAW development/production contract
Nov	1983	Serial production of SMAW begun
Feb	1984	First SMAW production deliveries
Nov	1984	SMAW achieves Initial Operational Capability with U.S. Marine Corps
	1986	U.S. Army begins limited SMAW procurement
Early	1994	Talley Defense Systems acquires Mk 150 SMAW program
Dec	2006	U.S. Marine Corps orders 3,000 SMAW-NE rockets
Apr	2007	Nammo AS (Raufoss, Norway) acquires Talley Defense Systems
Aug	2008	MARCORSYSCOM awards Nammo Talley SDD/LRIP contract for SMAW II
	2010	B-300 development and production continues; development and low-rate production of SMAW munitions continue

Worldwide Distribution/Inventories

Export Potential. While the B-300 has been available on the international market for years, Israel Military Industries has yet to announce any export sales. However, third-party sources suggest IMI may have secured at least two export sales. Mexico reportedly purchased a small quantity of B-300 launchers and the associated ammunition from Israel. In addition, reports indicate El Salvador purchased 200 B-300 launchers and an unspecified amount of ammunition.

As the parties involved have never released details of the license agreement between IMI and McDonnell Douglas (and now Nammo Talley), we do not know if the U.S. license includes export rights. Therefore, we do not forecast export sales for the SMAW.

Countries. **El Salvador** (200 B-300), **Israel** (B-300), **Mexico** (B-300), **United States** (1,969 SMAW).

Forecast Rationale

In 2004, Israel Military Industries Ltd (IMI) reportedly completed B-300 production for Israel Defense Forces (IDF) procurement. The U.S. Department of Defense completed procurement of the Mk 150 Shoulder-Launched Multipurpose Assault Weapon (SMAW) in FY86. The production lines in Israel and the U.S. remain available for new orders.

In April 2007, Nammo AS (Raufoss, Norway) acquired Talley Defense Systems. The U.S. contractor continues to operate as Nammo Talley, a component of the Nammo Group.

Enter SMAW II and FFE

In August 2008, the U.S. Marine Corps Systems Command awarded Nammo Talley Inc a $51,764,684 cost-plus-fixed-fee with fixed-price incentive contract for the system development and demonstration (SDD) and low-rate initial production (LRIP) of SMAW II launchers and Fire From Enclosure (FFE) assault rounds. The SDD phase specifies 18 SMAW II launchers and 165 FFE assault rounds; the LRIP phase specifies 130 SMAW II launchers and 750 FFE assault rounds. The expected date of completion is February 2011 (February 2012 with options exercised).

No Quick Profits

Although Operation Enduring Freedom (2001-present) and Operation Iraqi Freedom (2003-present) may serve to stimulate demand for multipurpose "bunker buster" weapons, the B-300 and SMAW programs are not likely to reap any quick profits from this phenomenon. In the U.S., development of the next-generation weapon of this class (SMAW II) is well under way. In Israel, appropriations for new man-portable weapons of this class will probably not be available.

While we do not expect the B-300 and SMAW to garner any significant new export sales, the basic weapon design will likely become the technological basis for new designs.

Limited Sales Potential

Our forecast reflects production of new launchers only; it does not include production of ammunition. IMI maintains expectations of future B-300 launcher sales, despite the production line being dormant at this time. The IDF will reportedly continue to procure ammunition for the B-300.

The U.S. Marine Corps and Nammo Talley are currently developing SMAW II. Production under the SDD/LRIP contract is to commence in the 2011-2012 timeframe.

Ten-Year Outlook

ESTIMATED CALENDAR YEAR UNIT PRODUCTION

Designation or Program	High Confidence					Good Confidence			Speculative			
	Thru 2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	Total
Israel Military Industries Ltd (IMI)												
B-300												
	6,597	413	421	67	0	69	175	119	0	0	0	1,264
Nammo Talley Defense Inc.												
SMAW II												
	0	0	130	390	200	130	120	120	120	120	120	1,450
Total	6,597	413	551	457	200	199	295	239	120	120	120	2,714

FORECAST INTERNATIONAL

ORDER FORM

FOR PROPER SHIPPING, PLEASE PROVIDE ALL OF THE FOLLOWING INFORMATION.

Name _____ Title _____

Company _____

Street Address _____

City _____ State/Prov. _____ Country _____ Zip _____

Phone _____ Fax _____

E-Mail _____

Cardholder Name _____

Card# _____ Exp. _____ csc# _____

Billing Address (if different from above) _____

_____

☐ Check Enclosed
☐ Bill Company
(Purchase Order # and Signature Required)
☐ Quotation Requested
☐ VISA ☐ MasterCard
☐ American Express

Name of Product/Service	Code	E-Mail Address	Qty.	Price

Please include your e-mail address to receive twice-weekly E-Market Alert Newsletters.

E-Market ALERT

Subtotal _____
Shipping _____
In Connecticut add 6% sales tax _____
Grand Total _____

SHIPPING AND HANDLING RATES

	U.S.	World
Market Intelligence Services		
Binder	$45	$85
DVD	$50	$95
Binder & DVD	$95	$180
Binder & RT	$45	$85
Worldwide Inventories		
Aerospace Systems		
CD	$50	$95
Weapons Systems		
Hard Copy	$45	$85
CD	$50	$95
Power Systems		
Hard Copy	$45	$85
Focused Market Segment Analyses		
Hard Copy	$25	$45

	U.S.	World
Market Intelligence Libraries		
Complete Library (Civil/Commercial & Military)		
Binder	$1,575	$2,975
DVD	$50	$95
Military Market Library		
Binder	$1,440	$2,720
DVD	$50	$95
Civil/Commercial Library		
Binder	$360	$680
DVD	$50	$95
Market Intelligence Group Libraries		
Aerospace		
Binder	$360	$680
DVD	$50	$95
Electronics		
Binder	$360	$680
DVD	$50	$95

	U.S.	World
Governments & Industries		
Binder	$540	$1,020
DVD	$50	$95
International Military Markets (A Subset of G&I above)		
Binder	$270	$510
DVD	$50	$95
Naval		
Binder	$90	$170
DVD	$50	$95
Power		
Binder	$90	$170
DVD	$50	$95
Weapons		
Binder	$180	$340
DVD	$50	$95

NOTE: No charge for Real-Time format.

2011 Historic Art Calendar $5.95 $12.95

NOTE: ORDERS CAN TAKE UP TO 5 BUSINESS DAYS TO SHIP.

22 Commerce Road, Newtown, CT 06470 USA • Phone: 203.426.0800 • Fax: 203.426.0223
Toll-Free (U.S. and Canada): 800.451.4975 • E-mail: sales@forecast1.com • Website: www.forecastinternational.com

WORLDWIDE SALES OFFICES

HEADQUARTERS USA

FORECAST INTERNATIONAL INC.
22 Commerce Road, Newtown, CT 06470 USA
Phone: 203.426.0800 Fax: 203.426.1964

SALES/CUSTOMER SERVICE/MARKETING
Phone: 203.270.0633 Worldwide
Toll-Free: 800.451.4975 U.S. & Canada
Fax: 203.426.0223
E-Mail: sales@forecast1.com
E-Mail: info@forecast1.com
E-Mail: customerservice@forecast1.com

PROPRIETARY RESEARCH & CONSULTING
Phone: 203.426.0299 Fax: 203.426.1964
E-Mail: consulting@forecast1.com

EDITORIAL
Phone: 203.270.0111 Fax: 203.426.4262
E-Mail: queries@forecast1.com

TECHNICAL SUPPORT
Phone: 203.270.0629 Fax: 203.426.0223
E-Mail: support@forecast1.com

WEBSITE ADDRESSES
www.forecastinternational.com
www.fiplatinum.com

HEADQUARTERS EUROPE
(INCLUDING RUSSIA)
HAWK ASSOCIATES LTD.
UNITED KINGDOM
Templehurst House
New Street, Chipping Norton
Oxon, OX7 5LJ, U.K.
Phone: (44) 1608 643281
Fax: (44) 1608 641159
E-Mail: support@hawkinformation.com
Website: www.hawkinformation.com
Contact: Mr. Michael Hobbs

HAWK ASSOCIATES LTD.
FRANCE
6 Rue de Levis, Paris 75017 FRANCE
Phone: (33) 1 4294 0693 Fax: (33) 1 4294 0433
E-Mail: france@hawkinformation.com
Contact: Mr. Edward Hobbs

CHINA AND SOUTHEAST ASIA
CHINA NATIONAL PUBLICATIONS
I & E GROUP CORPORATION
PO Box 88
16 Gongti East Road
Chaoyang Beijing 100020 CHINA
Phone: (86) 10 6506 6688 ext. 8307
Fax: (86) 10 6586 6970
E-Mail: xiaoxiao0640@hotmail.com
Contact: Mr. Xiaoxiao Zhang

JAPAN
AVIATION RESEARCH INSTITUTE
1-427-2 Takano
Misato City Saitama Pref
Tokyo 341-0035 JAPAN
Phone: (81) 489 71 5040
Fax: (81) 489 55 7151
E-Mail: max@arijapan.com
Website: www.arijapan.com/forecast
Contact: Mr. Kenichi Oyama

REPUBLIC OF KOREA
PAMANONG TRADING COMPANY
275-2 Yangjae Dong
Seocho-Gu Seoul 137-722 KOREA
Phone: (82) 2 572 4349 or (82) 2 572 4371
Fax: (82) 2 572 4370
E-Mail: nhk@forecast1.com
Website: www.forecast1.co.kr
Contact: Ms. Nam Hee Kim

TERMS AND CONDITIONS

DISCOUNT PRICING
Discount Pricing – Codes prefaced by CH, RH, Z, P or RTPS, and multi-user subscriptions, include a discount that is reflected in the marketed cost.

BOOKSELLER DISCOUNTS
For information, call 203.270.0633 or 800.451.4975 (Toll-Free U.S. & Canada). E Mail: info@forecast1.com.

NEW CLIENTS
Payment in full is required with the initial order.

TERMS
Net 30 days. For overdue accounts we reserve the right to assess interest of 12% annually, and add collection fees.

PURCHASE ORDER
If company requires, please submit a purchase order to ensure timely delivery.

RETURNS OR REFUNDS
Due to the nature of our products, no returns are accepted and no refunds are provided.

FORMS OF PAYMENT
We accept VISA, MasterCard, American Express, or a company check drawn on a U.S. bank in U.S. dollars. Wire Transfer Details: Contact customerservice@forecast1.com or call 203.270.0633.

Please ensure bank charges are not deducted from the total amount due. Note: Include the quotation or invoice number with your payment.

DATA USAGE
Photocopy/Copyright Permission: Forecast International observes all Copyright laws. Reproduction and distribution of any product is prohibited by law. To obtain a release, please call 203.270.0633 or contact customerservice@forecast1.com.

ELECTRONIC DATA LICENSING
All products provided on DVD or CD, or in Real-Time, are sold and licensed for single-site, single-user applications. Multi-site, multi-user licensing is available. Call 203.270.0633 or contact sales@forecast1.com to discuss your requirements.