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Defence Industry

Leader of the Ukrainian armoured construction – SOE KMDB – is 80 years old

On 6 September 2007, SOE Kharkov Morozov Machine Building Design Bureau (SOE KMDB) celebrated its 80th jubilee.

Created on the basis of Kharkov steam-engine plant in 1927, the design group on tank development was gradually transformed into a separate high-capacity design-manufacturing enterprise creating armoured equipment. It has taken a key place in its field in the former USSR, and now in Ukraine. Among the developments of SOE KMDB a special place is occupied by such vehicles as the best tank of the Second World war – T-34, and a forefather of all the post Soviet main battle tanks – T-64.

At present the SOE KMDB is actively extending the range of its products, among which is heavy armoured equipment (tanks Oplot, Yatagan, BREM), light armoured equipment (armoured personnel carrier 4x4 – Dozor-B, armoured personnel carriers 8x8 – BTR-3, BTR-4), modernisation packages of tanks and armoured personnel carriers of the former USSR (T-55, T-62, T-64, T-72, BTR-50/60/70/80 and others), weapon systems, training facilities (dynamic simulators, training programs, stands, etc.) as well as a number of products of civil purpose.

The detailed history and products of SOE KMDB can be found at www.morozov.com.ua.Morozov,Dozor-B,Oplot

Contracts

MoD Signs GBP30 M Contract With DML

The Ministry of Defence today signed a GBP30 million contract with Plymouth-based DML for 130 weapon mounted patrol vehicles which will be used by troops in Iraq and Afghanistan.

The MWMIK vehicles (Mobility Weapon Mounted Installation Kit) will be built at the Devonport site and will be a considerable asset to troops on operations. With a top speed of 80 mph, they will offer increased mobility and protection.

The vehicle can be fitted with a range of firepower, including a .50 calibre machine gun or an automatic grenade launcher and a general purpose machine gun.

The MWMIK can carry up to four soldiers with their individual weapons, and can operate on a variety of terrains, including off road.

Lord Drayson, Minister of State for Defence Equipment and Support, said:

"These vehicles are well armed, swift, and agile. They will boost our capability with some serious firepower. MoD and the Treasury have worked hard to get these powerful vehicles to our troops in quick time, and they will start going out to theatre early next year."

Term of the day

Bazooka

The bazooka is a man-portable anti-tank rocket launcher, made famous during World War II where it was one of the primary infantry anti-tank weapons used by the United States Armed Forces.

It was one of the first weapons based on the High explosive anti-tank (HEAT) shell to enter service. It was nicknamed "bazooka" from a vague resemblance to the musical instrument of the same name invented and used by Bob Burns. It saw widespread use throughout WWII.

The German armed forces copied the design increasing the caliber to 88 mm, as well as other changes, and issued it as the Raketenpanzerbьchse "Panzerschreck".

In addition to the actual weapon, the word "bazooka" is often incorrectly used to refer to any shoulder-launched missile weapon.

The original 60mm bazooka (2.36-inch) in its various models served in all theatres of the Second World War and later in the Korean War. After it proved inadequate against the Soviet T-34 tank during the latter war (as it had against German Tigers and Panthers in the former), it was replaced with the M20 Super Bazooka of 89 mm

(3.5-inch) model. The M20 was in turn supplanted by the LAW (Light anti-tank weapon) in the opening stages of the Vietnam War. Bazookas were replaced in some roles by 57 mm M18 and 75 mm M20 recoilless rifles in the last battles of WWII (1945).

Defence Industry

New technology significantly improves the precision and range of artillery rockets

Live fire test of Rheinmetall Defence's Corect guidance module has confirmed its effectiveness in impressive fashion.

The new satellite-supported flight path guidance modules successfully guided two Corect-MLRS test rockets to a target 20 km away with compelling precision, compensating for a lateral error of approximately 300 m. This proves the technical and operational effectiveness of the Corect guidance module in conjunction with the Multiple Launch Rocket System, or MLRS.

The live fire test successfully concludes the second stage of the demonstrator programme, carried out by Rheinmetall Defence on behalf of Germany's Federal Office for Defence Technology and Procurement (BWB). The company will now submit a budget proposal for final development, pre-production preparations and serial manufacture.

With Corect, Rheinmetall engineers at the company's Stockach and Unterluess plants have developed an advanced satellite-supported guidance system that significantly enhances the accuracy of ballistic artillery systems. The new system reduces deviation from the intended target to less than 50 m, a clear improvement over currently fielded artillery systems, which sometimes miss their targets by several hundred metres.

This increase in accuracy enables reduced warhead weight without sacrificing effectiveness. Compared to the original MLRS rocket, the Corect-MLRS has a considerably greater maximum effective range – without having to modify the rocket engine.

As can be seen in this sequence of thermographs, when the sensors detect that the rocket is deviating from its planned trajectory, micro-jets are ignited to ensure that it still hits its intended target.

The Corect guidance module makes this possible. Throughout the flight, an integrated GPS receiver determines the current position of the projectile. A magnetic field sensor mounted on the rocket measures the earth's magnetic field, while an onboard processor calculates the way the rocket is banking. Based on this data, the onboard processor calculates the rocket's deviation from its intended flight path. It then initiates precisely timed impulses for correcting the rocket's lateral and elevation direction by activating the rocket's radially operating micro jets.

During the live fire trial, every component of the Corect guidance module functioned perfectly. The GPS kept accurate track of the rocket's position, while the onboard processor calculated all deviation from the intended trajectory; the correction impulses proved highly effective, resulting in complete mission success. All data collected on board the rocket and transmitted back by telemetry, as well as flight data externally gathered by radar, are now available for precise evaluation.

"Corect is a pioneering system for satellite-supported trajectory correction that's unequalled worldwide", declares Dr.-Ing. Wolfgang Kreuzer, head of development in Stockach and project manager for the demonstrator programme. "It boosts the precision and range of rocket artillery, and saves costs by reducing the amount of ammunition needed to accomplish the mission. And now we've proved that it can be used for modernizing legacy rocket systems, too, large numbers of which were stockpiled years ago", adds Dr. Kreuzer, noting that Corect can also be integrated into new weapon systems.

Very large numbers of MLRS rockets are still to be found in the inventories of some European NATO armies, including the Bundeswehr. They are in good condition, and many of them could be upgraded to maintain and enhance their combat effectiveness. Rheinmetall's Corect guidance module thus constitutes a cost-efficient means of modernizing existing stocks of ammunition to meet the latest requirements of the military.

Future Technologies

Unique Solid Terrain Modeling technology adds a new dimension to strategic, tactical and operational planning

A unique technology, which utilises digital photographic and surveillance data to produce highly accurate and realistic solid, three dimensional geographic models, is being shown at DSEi for the first time.

Solid Terrain Modeling Inc., the California-based firm behind the development, is making its DSEi debut to launch its entry into the global defence market.

Already fully established and successful in the US,

where its products and technology are in use with defence, government, public service, educational and geographic organisations, STM now plans to develop its operations in the UK, the EU - and other key regions and world markets.

Its technology can replicate actual landscapes, terrain and defined geographical areas to assist and support strategic, tactical or operational planning – or enhance understanding in a briefing, instructional, training, simulation or educational environment. This subject matter can include mountain ranges, desert regions, river deltas, seascapes, urban areas – or weather patterns.

In addition to creating the physical model, STM can also apply a photo-quality colour finish to the surface to create a remarkably realistic end result. Input data can be utilised from a wide range of sources – such as satellites, aerial photography and surveillance information, imaging, or existing cartographic or contour details.

The basic raw material for an STM model is a block of high-density polyurethane foam. This is then cut by a special computer controlled milling machine, programmed from digital elevation data and other information. Once the cutting process is complete, a custom built printing machine 'flies' special inkjet print heads across the surface to deposit a full, vibrant colour image. The result is a model that allows a far better understanding and visual appreciation of the terrain than any other mapping technology.

STM President, Lawrence Faulkner says, "Solid terrain models are not a replacement from other – and necessary stages in the geo-physical study or planning process. Conventional maps, computer simulation including 'fly-through', thermal data, etcetera, remain in place. But what we can do is bring the overall picture to life - in a way which no other close detailed, interactive or flat image can achieve".

The company has generated some impressive renderings, which serve to demonstrate the versatility of its technology. One such example is a living map of British Columbia – which is 74ft. long and 40ft. wide. It is made up of 100 uniquely shaped panels and illustrates over 1 million square miles of terrain from Oregon to the Yukon Territory. Remarkably, the accuracy of the data has allowed STM to incorporate the curvature of the earth into the model.

Other examples include locality maps used by land developers, engineers and architects to explain planning, development and regeneration programmes to public authorities and politicians. Models are also used by some public service and emergency response organisations to study and plan for potential scenarios such as flooding and fire. A number of specialist models and exhibits are in use in museums and visitor centres.

Exhibitions

RUSSIAN TECHNOLOGIES AT DSEi'2007

The 5th Defense Systems & Equipment International Exhibition and Conference, DSEi'2007, will be held at the ExCeL Trade and Exhibition Center in London, Great Britain from September 11 to 14, 2007.

Organized by GB's Defense Ministry, this Europe's largest show will host more than 1,300 companies and organizations from 30 countries. The exhibition is gathering momentum. It encompasses almost the entire spectrum of armament and military equipment currently in service with the land forces, air forces and navies around the world.

Russia comes back to DSEi as an exhibitor to display the most advanced military and dual-purpose products, technologies and services. The Rosoboronexport State Corporation is the organizer of Russian national exposition. A wide range of military products intended for service with all the fighting arms have been selected with a view to the rearmament programs and technical standards in effect in different countries and taking into account the needs and requirements of military leaders of arms importing countries.

Russia is acknowledged as one of the world's leading developers and manufacturers of military equipment for the land forces. At London exhibition, Rosoboronexport displays various types and models of infantry combat vehicles, armored personnel carriers, airborne assault vehicles, armored recovery vehicles, multiple launch rocket systems, self-propelled artillery guns and howitzers, anti-tank guided weapons, air defense missile/gun complexes, small arms and close-quarter fighting weapons. Among the most competitive Russian weapons are the T-90S tank, BMP-3M infantry combat vehicle, BMD-2 and BMD-3 airborne assault vehicles, BTR-90 armored personnel carrier and the Khrizantema-S self-propelled anti-tank complex.

Experts of the Rosoboronexport State Corporation will acquaint the guests with the Iskander-E missile complex that proves equal to the challenges of present-day armed struggle.

Specialists will receive exhaustive information about a gamut of Russian infantry combat vehicles, including the BMP-3, which is noted for a high operational effectiveness and reliability, simple design and ease of maintenance and operation.

Russia has always been one of a few world nations capable of developing, manufacturing and exporting the entire spectrum of air defense equipment. At buyer's option, air defense equipment developers and manufacturers can develop and deliver various functionally complete elements and even whole subsystems making part of an integrated automated air

defense system of the required level of operational effectiveness. The separate elements of various subsystems, the firing weapons, radars and battle management automation assets produced in Russia can be integrated into the customer's national air defense system.

A distinguishing feature of Russian air defense systems is that they incorporate the unique design and technological solutions. The Rosoboronexport State Corporation offers potential clients the advanced air defense missile systems and complexes some of which have no peers in the world for technology and operational effectiveness. Among them are such systems as the Buk-M1-2, Buk-M2E, S-300PMU2 (Favorit), S-300VM (Antey-2500), Tor-M1, Tor-M2E, Pantsir-C1, Tunguska-M1, Igla-S and others.

A wide range of state-of-the-art radars embodying the unique technological solutions and designed to furnish operational information to air defense weapons are exhibited too. They include the Nebo-SVU VHF radar, the Protivnik-GE, Gamma-S1, Gamma-DE and Kasta-2E2 UHF radars, the 1L117M SHF radar, and the radars of air defense systems and complexes.

The high-tech automated battle management complexes, such as the Bastion-3E, Universal-1E, Polyana-D4M1, Ranzhir-M (MK), PU-12M7, PPRU-M1-2, Fundament-2E, etc., are designed for operational control of theater- and tactical-level air defense assets and for operational information gathering and processing.

The air defense systems of previous generations are not set aside. Russia offers the upgraded versions of the Kvadrat, Osa-AKM and Strela-10 air defense missile systems, the ZSU-23-4 Shilka and ZU-23-2 air defense artillery systems, as well as the P-18, P-19 and P-37 radars.

In partnership with Russian helicopter industry manufacturers, Rosoboronexport will demonstrate a wide range of helicopters at DSEi'2007 and will submit information of interest to specialists regarding helicopter airborne and ground-based equipment, helicopter maintenance equipment and crew training facilities.

The Mi-family helicopters on display will include the Mi-28NE "Night hunter", Mi-35P and Mi-35M transport/combat helicopters, Mi-171Sh and Mi-17V-5 transport helicopters and the Mi-26 heavy transport rotorcraft featuring the highest weight-lifting ability in the class in the world.

The Ka-family helicopters will include the Ka-50 combat helicopter and its modifications, the Ka-31 radar picket rotorcraft, Ka-28 ship-based antisubmarine warfare helicopter and the Ka-27PS ship-based search and rescue helicopter.

Russia is a great sea power capable of building warships and auxiliary vessels of all classes. It develops and produces all types of naval armament and equipment. The advanced science combined with cutting-edge design and shipbuilding technologies, huge production capacities, skilled manpower and rich experience in foreign economic relations allow us to maintain Russia's position as the world's leading exporter of naval armament and equipment. At DSEi'2007, Rosoboronexport demonstrates a comprehensive range of naval products to foreign partners.

The Project 636 and the Amur-1650 submarines equipped with an integrated missile system, dubbed Club-S, have a high export potential. These fourth-generation diesel boats are noted for superb striking power, high speed and long cruising range.

As there is a marked trend in many world nations towards increasing the capabilities of their Navies for operations in littoral areas, the export potential of Russian guided-missile, assault and patrol boats increases dramatically. The Murena-E and Zubr air-cushion assault boats, the Project 12418 guided-missile boat, the Mangust, Mirazh and Sobol patrol boats displacing from 10 to 550 tons can attain a speed of up to 50 knots. Rightly, they are considered among the world's best boats.

Apart from these boats, some large surface combatants are offered for export, including frigates, which are in demand in the naval equipment importing countries. Russia offers surface combatants of Projects 11356, 11541 and 11661 Gepard 3.9. All of them have been developed using the advanced technology proven by naval ships in service. These combatants are capable of carrying various onboard weapon systems.

The ability of our defense industry complex to form international corporations involved in developing advanced armament and military equipment opens up broad horizons for Russia in the military-technical sphere. To this end, the Rosoboronexport State Corporation is maintaining fruitful cooperation with such foreign companies as BAE Systems, MBDA, Snecma, Thales, Sagem DS, EADS, Rolls Royce and Finmeccanica. An annual contribution made by leading European companies to the development of Russian weapon systems is about USD100 million.

Vladimir Pakhomov, head of Rosoboronexport delegation states that "Cooperation with foreign partners in the field of advanced technologies is a far-ranging aspect of Rosoboronexport activities".

Rosoboronexport officials state with certainty that the Russian delegation to DSEi'2007 will help promote further development of mutually beneficial relations of the Russian Federation with foreign countries in the field of military and non-military technologies and will allow Russian manufacturers to build new plans for cooperation with partners in scientific, technological and production spheres.

Term of the day

Greek fire

Greek fire was a burning-liquid weapon used by the Byzantine Greeks, Chinese, Mongols, and Arabs. The Byzantines typically used it in naval battles to great effect as it could continue burning even on water.

The Greek fire was largely responsible for many Byzantine military victories, and partly the reason for the Byzantine Empire surviving as long as it did. The formula was a secret and remains a mystery to this day. As one contemporary victim of Greek fire advised his comrades, 'Every time they hurl the fire at us, we go down on our elbows and knees, and beseech Our Lord to save us from this danger'.

The ingredients, process of manufacture, and usage were a very carefully guarded military secret—so secretive that it remains a source of speculation to this day. Speculations nclude:

- petroleum, niter, sulfur;
- naphtha, quicklime, sulfur;
- phosphorus and saltpeter.

It is not clear if the operator ignited the mixture with a flame as it emerged from the syringe, or if it ignited spontaneously on contact with water or air. If the latter is the case, it is possible that the active ingredient was calcium phosphide, made by heating lime, bones, and charcoal. On contact with water, calcium phosphide releases phosphine, which ignites spontaneously. The reaction of quicklime with water also creates enough heat to ignite hydrocarbons, especially if an oxidizer such as saltpeter is present. However, Greek fire was also used on land.

These ingredients were apparently heated in a cauldron, and then pumped out through a siphon or large syringe (known as a siphɪnarɪɪs) mounted on the bow of the ship. Such a ship was herself called a siphɪnɪphɪɪɪs. It could also be used in hand grenades, made of earthenware vessels. If a pyrophoric reaction was involved, perhaps these grenades contained chambers for the fluids, which mixed and ignited when the vessel broke on impact with the target.

Defence Industry

High Mobility Artillery Rocket Systems for Singapore

The Defense Security Cooperation Agency notified Congress of a possible Foreign Military Sale to Singapore of High Mobility Artillery Rocket Systems as well as associated equipment and services. The total value, if all options are exercised, could be as high as $330 million.

The Government of Singapore has requested a possible sale of Major Defense Equipment:

18 M142 High Mobility Artillery Rocket Systems (HIMARS) Launchers

32 XM31 Unitary High Explosive GMLRS Pods
30 M28A1 Multiple Launcher Rocket Systems (MLRS) Practice Rocket Pods
35 VRC-92E Single Channel Ground and Airborne Radios Systems (SINCGARS)
45 VRC-90E SINCGARS
35 VRC-990 Vehicular Radio Communications Sets
45 VRC-950 Vehicular Radio Communications Sets
9 M1084A1 Family of Medium Tactical Vehicles (FMTV) 5-Ton Trucks
1 M1089A1 Wrecker

Also included are support equipment, communications equipment, spare and repair parts, test sets, batteries, laptop computers, publications and technical data, personnel training and equipment, systems integration support, support services of a Quality Assurance Team and a Technical Assistance Fielding Team, United States (U.S.) Government and contractor engineering and logistics personnel services, and other related elements of logistics support. The estimated cost is $330 million.

This proposed sale will contribute to the foreign policy and national security of the United States by helping to improve the security of a friendly country that has been, and continues to be, an important force for economic progress in Southeast Asia.

The HIMARS will enhance Singapore's military capability by providing a highly effective indirect area fire artillery system that is critical to successful deterrence and national defense. HIMARS supplements traditional cannon artillery by delivering high volume firepower in a short time against time-sensitive targets. At shorter ranges, HIMARS complements tube artillery with heavy barrages against assaulting forces, counter-fire and defense suppression. Singapore will have no difficulty absorbing and integrating this system into its armed forces.

Term of the day

Flower Wars

A flower war or "Flowery war" is the name given to

the battles fought between the Aztec Triple Alliance and some of their enemies: most notably the city-states of Tlaxcala, Huexotzinco, Atlixco and Cholula.

In his Durõn Codex, Diego Durõn states that the Flower wars were instigated by the Aztec Cihuacoatl, Tlacaelel, because of a great famine that occurred during the reign of Moctezuma I that could only be assuaged through the means of human sacrifice which resulted in a treaty being signed between Tenochtitlan (the Aztec capital), Texcoco, Tlaxcala and Huexotzingo to engage in ritual battles to provide fresh victims. However another source, noble historian Chimalpahin Quauhtlehuanitzin, mentions an earlier Flower War between Mexica and the Chalca.

The sixteenth century chronicle a History of Tlaxcala, by Tlaxcallan Diego Mucoz Camargo contains a legend of a powerful Tlaxcalteca warrior called Tlahuiɜole, who was captured, but because of his fame as a warrior he was freed and then fought with the Aztecs against the Tarascans in Michoacan. He received honors, but instead of returning to Tlaxcala he chose to die in sacrifice. There were eight days of celebrations in his honor, and then he killed the first eight warriors. Still insisting on being sacrificed, he fought and wounded 20 more warriors before being defeated and sacrificed.

The exact nature of the Flower Wars is not well determined but a number of different interpretations of the concept exist. The widely accepted idea of the Flower Wars is that it was a special institutionalized kind of warfare where two enemy states would plan battles through mutual arrangement in order to satisfy the religious needs of both combatants for war captives to use in sacrificial rituals, but also, possibly, to train young warriors and enable social mobility which for the lower classes was primarily possible through military service. This view is based on a number of quotes from early chroniclers and also from the letters of Cortйs. However in recent years this interpretation has been doubted by scholars such as Nigel Davies and Ross Hassig, who argue that "the mutual arrangement" of the flower war institution is dubious, and suggest that Flowery War was in fact a low-intensity, sustained conflict with the Aztec side trying to fatigue the Tlaxcalteca in order to later conquer them entirely.

Though Hassig suggests that the interpretations about the Flower Wars have been exaggerated, he accepts that captives of these wars were in fact sacrificed. Hassig's point is that the captives of such wars were not the only ones to be sacrificed; that such captives participated only in some Aztec rites, and that they didn't participate in the ostentatious 1487 ceremony of dedication to the Great Pyramid of Tenochtitlan.

Aztec warriors are said to have been trained to prefer capturing their enemies in battle, rather than killing. This behaviour has been cited as another reason for the defeat of their civilization by the Europeans. To the Aztecs' amazement, the Spanish conquistadors and their allies actually tried to kill their enemies in battle. But this idea has largely been dismissed by Matthew Restall who makes it clear that the indigenous warriors quickly adapted their strategies to this kind of warfare, and provided the Spanish forces with fierce resistance.

Defence Industry

PLASAN SASA Introduces Its Latest Ballistic Armour Solutions At DSEI 2007

DSEI, September 11, 2007 -- Plasan Sasa, a world leader in the design, development and manufacture of combat-proven ballistic armour solutions, will showcase its latest solutions at DSEi 2007, which will take place September 11-14, 2007, Excel London, UK.

The Company showcases examples of its exceptional flexibility in vehicle design and armour solutions for a wide range of today's unique requirements. The SandCat, an armoured DAF truck, and two 8x8 armoured platforms will be on display at the company's Stand No. 2027, located in the main Hall.

Designed to answer the complex challenges of today's modern battlefields, the company's applications are fully optimised for protection, weight, and cost. Plasan's solutions - based on its technological expertise, unique capabilities, and field experience - have been integrated by the Israeli Defence Forces and by customers around the world, for whom the name Plasan Sasa has become synonymous with armour.

An Expanding Role in the British Defence Industry

Plasan Sasa has a successful track record in the British defence market. The company cooperates with Permali Gloucester Ltd. – a partner and authorised supplier for the Ministry of Defence on projects such as add-on armour systems for the SCIMITAR & SPARTAN Reconnaissance Vehicles, RAF (Royal Air Force) Chinooks, and the Wheeled Tanker Program. These cooperative ventures form the foundation for the

company's increasing contribution to this important market.

MRAP - Mine-Resistant Ambush Protected Project

As sub-contractor for ITEC, Plasan is supplying the US Marines with battle-proven ballistic armoured protection for 1200 MRAP (Mine-Resistant Ambush Protected) vehicles, designed to safeguard military personnel and property from the threats of IEDs (Improvised Explosive Devices), RPGs (Rocket Propelled Grenades) and SAFs (Small Arms Fire). Supporting multiple mission types, the MRAPs will be delivered by the end of February, 2008, in a contract valued at over $200m.

Advanced Armour Solutions for Today's Complex Needs

Based on today's most advanced technologies, Plasan develops armour solutions for a wide range of applications and platforms - including light patrol vehicles, HMMWVs, trucks, and APCs. Modular and lightweight, these solutions enhance crew survivability, improve multi-hit performance, and enable increased mobility.

Leveraging the company's exceptional capabilities, Plasan's global projects cover a wide spectrum of solutions of varying complexity: (1) Add-On Armour, in which kits are provided for operational vehicles that require urgent armour upgrades in the field; (2) Chassis-Up, in which the company receives the chassis and builds the armour to complete the vehicle; (3) Built-to-Print, in which the company receives the complete platform design and builds the entire armoured vehicle; and, (4) Complete Hull Design, in which the company receives the hull and designs and builds the vehicle from the hull - up.

In every project, Plasan's team is involved in all stages of the customisation process, from design and development - through post-delivery services. The company takes pride in its high level of customer service, and the quality of its solutions, which meet the strictest international standards, including those of NATO and the USA.

Unique in the industry, the Company's expertise covers four of today's major ballistic technologies - Metal Composite, Composite Ceramic Armour, SMART Technology Armour, and high performance Polyethylene Armour. The sophisticated utilisation of these cutting-edge technologies - combined with exceptional engineering, as well as modularity and flexibility built into every solution - enable the company to quickly respond to evolving requirements, supplying fully integrated, end-to-end solutions to meet the specific needs of every manufacturer, including kits that can be rapidly assembled and maintained in the field.

!Close Cooperation with Leading Platform Manufacturers

Plasan Sasa is one of the few companies approved by the U.S. Department of Defence to supply advanced add-on armour for lightweight military vehicles and trucks. The company's solutions are used in a wide range of military truck fleets, including Oshkosh Medium Tactical Vehicle Replacement (MTVR), M915, DAF and Volvo, as well as Oshkosh vehicles for the US Navy.

Term of the day

Phalanx

A phalanx (plural phalanxes or phalanges) is a rectangular mass military formation, usually composed entirely of heavy infantry armed with spears, pikes, or similar weapons. The troops were disciplined to hold a line which created a nearly impenetrable forest of points to the front.

The phalanx is a hallmark of ancient Greek warfare. The word phalanx is derived from the Greek word phalangos, meaning the finger.

The (hoplite) phalanx was a formation in which the hoplites would line up in ranks, usually no less than four deep, in very close order. In this formation, the hoplites would lock their shields together, and the first few ranks of soldiers would project their spears out over the first rank of shields, to try to gain the upper hand in the battle early on and as a result, allowing for the first three or so ranks of spearmen to engage their spears against the enemy. Therefore, one might say that the phalanx was essentially a formation in which the hoplites created a mass spear and shield wall. The effectiveness of the phalanx depended upon how well the hoplites could maintain this formation while in combat, and how well they could stand their ground, especially when engaged

against another phalanx. It could be said that the main enemy of a phalanx was not the opposition forces (the majority of the soldiers would remain unengaged in a phalanx versus phalanx pushing match, because they were positioned at the rear and were responsible for keeping the front rows pressed forward) but fear. One theory was that the more disciplined and courageous the army the more likely it was to win - often scrims between the various city-states of Greece would be resolved by one side fleeing before the engagement. The Greek word dynamis, the "will to fight", expresses the drive that kept hoplites in formation.

Before the advance, both sides would sing the 'paean', the battle-hymn (notably, the Spartans rejected the use of a battle-hymn, thinking it needless bravado), then advance to the cadence (a marching beat) - on trumpets, pipes or drums. When nearing the enemy, the phalanx would break into a run that was sufficient enough to create momentum but not too much as to lose cohesion. Both sides would collide viciously, breaking many of the spears of the front row. The battle would then rely on the valour of the men in the front line and the rear men to maintain a push forward with their shields.

The natural tendency during battle would be to drift towards the right side, or even for both lines to "wheel" as one side gave ground and the other advanced. This is because the individual hoplites carried their shields on their left arm, protecting not themselves but the soldier to the left (thus giving an incentive to stand very close together). Battles were won when the exposed right side (carrying spears) could overpower the opposing army's left side (carrying shields).

When in combat, the whole formation would consistently press forward trying to break the enemy formation; thus when two phalanx formations engaged, the struggle essentially became a pushing match, in which, as a rule, the deeper phalanx would almost always win, with very few recorded exceptions.

Defence Industry

Lightweight Chemical Agent Detector To Protect German Armed Forces

German Ministry of Defence selects Smiths Detection lightweight chemical agent detector to protect Armed Forces.

SMITHS Detection, part of the global technology business Smiths Group, has been awarded a contract to supply up to 50 Lightweight Chemical Detectors (LCD) to the German Federal Office of Defence Technology and Procurement, BWB, for use by the German Army. Chemical Warfare Agents Detection and Identification

The LCD, which can detect a wide range of chemical warfare agents and toxic industrial chemicals, has been designed as a compact, wearable detector that provides personal protection for troops. Germany has become the first European country to specify a new variant of the LCD that allows users to see an identification of the deadly agent displayed on a screen, when the unit alarms.

The addition of the liquid crystal display screen and programming buttons also gives troops a new level of equipment control, enabling the unit to be configured to meet individual requirements. Improved links have also been provided for applications requiring the LCD to be networked within a battlefield area communications system.

Stephen Phipson, Group Managing Director of Smiths Detection said: "LCD is setting the technological standard for current and future generation NBC products, having been selected within recent months by Germany, three Scandinavian countries and by the U.S. DoD for its M4 JCAD programme. The German Ministry of Defence created a demanding requirement and it has been a considerable achievement to meet its specifications with the development of an established product. "

CBRN Defence Research

The German defence contract includes options to purchase additional quantities of the LCD to meet future requirements of both its Army and Navy.

Damian Tracey, President of Smiths Detection - Military, commented: "The BWB demanded some of the most advanced technological features and it is a credit to the engineering skills in Smiths Detection that this version of LCD achieved its goals. The product was thoroughly tested by the specialist German CBRN Defence Research Establishment, WIS, in Munster and is now ready to enter service."

Exhibitions

Patria and IBD reveal a survivability concept at DSEi

Patria Vehicles Oy and IBD Deisenroth Engineering, Germany, announced today a co-operation partnership programme within increased survivability and protection concepts for the Patria AMV platform.

The parties have joined forces to further improve the market leading platform of AMV with increased protection and balanced surviv-ability for near term and future scenarios. The initial part of the program focuses on passive IED (Improvised Explosive Device) protection solutions, by AMAP™- I, and integration of the AMAP™- ADS (Active Defence System).

“The Patria AMV platform clearly further strengthens its excellent position with the new integrated superior protection. This is how we, as manufacturer, seek to reduce the increasing threats at operations that our customers encounter today and tomorrow”, says Heikki Hulkkonen, Executive Vice President, Patria’s Vehicles

Business Unit. “We see enormous potential in working together with one of the top platform manufacturers in the industry”, states Anders Nilsson from IBD.

At the DSEi 2007 Patria and IBD will present the Patria AMV with an integrated solu-tion of the active defence system AMAP™- ADS. The prototype has thereby been given all around protection for KE, SC and IEDs. The intent by the parties is to proceed with further activities in order to be able to field the system within the next two years. Within the co-operation programme tests against passive IED protection, ad-dressing the capacity to withstand IEDs (including blast and fragments), have been conducted. The passive IED protection could now be inserted in the platform and deployed at short notice. This is a direct response to the actual threats in theatre. Both Patria Vehicles Oy and IBD address the intent to proceed with the additional activities within the programme to further enhance the AMV’s superior capabilities.

Patria is a defence and aerospace group with international operations delivering its customers competitive solutions based on own specialist know-how and partnerships. Patria is owned by the State of Finland and the European Aeronautic Defence and Space Company EADS N.V.

IBD Deisenroth Engineering is a private company based in Lohmar, Germany which is providing the complete range of Survivability technologies with the family of AMAP™. The subsidiary ADS GmbH is further the focal point, within the IBD-group, for all activities which concern the Active Defence System (AMAP™-ADS).

Defence Industry

Harris Corporation Introduces RF-7800M Multiband Manpack Tactical Radio for International Markets

LONDON, — Harris Corporation, an international communications and information technology company, has introduced the RF-7800M-MP, a multiband, high-capacity tactical radio that dramatically enhances the ability of military personnel to communicate at high data rates while on the move.

The RF-7800M-MP is the newest addition to a family of Harris tactical radio products designed to broaden access to battlefield networking.

The RF-7800M-MP provides secure voice and high-speed networked data services with up to 20 watts of output power over an extended frequency range of 30 MHz to 2 GHz — a significant increase over competing products. Designed for flexibility, the single-channel radio runs both narrowband and wideband waveforms off a single military battery, lightening the soldier's load on the battlefield. A vehicular amplifier adapter, the RF-7800M-VA, is available to boost power to 50 watts.

"The RF-7800M-MP is a breakthrough radio with advanced capabilities designed to empower warfighters with information where and when they need it," said Steve Marschilok, vice president and general manager, International Government Systems, Harris RF Communications. "The radio offers a significant leap in networking reliability, data throughput rates, and miniaturization for our customers, and brings future capabilities to the market now. In addition, the RF-7800M-MP is designed to quickly accept new waveforms and capabilities that our customers need."

The initial release of the RF-7800M-MP will include the Harris Advanced Networking Wideband Waveform (ANW2) for mobile ad-hoc networking. The ANW2 networking waveform provides secure IP data to the tactical Internet at on-air rates up to 10 Mbps. The radio's Software Communications Architecture (version 2.2) enables the loading of future waveforms and ensures software upgradeability. With 10 times the processing power of currently fielded tactical radios, the RF-7800M-MP utilizes embedded 256-bit AES encryption and provides simultaneous IP data, situational awareness, and CNR voice.

The RF-7800M-MP is part of a new family of products in the Falcon® line of radios designed for network-centric warfare, including the previously announced RF-7800W Broadband Ethernet Radio and the RF-7800S Secure Personal Radio.

Term of the day

Hoplite

The hoplite was a heavy infantryman that was the central focus of warfare in Ancient Greece.

The word hoplite derives from hoplon meaning an item of armour or equipment and consequently the entire equipment of the hoplite (but not specifically the circular shield, which is sometimes incorrectly referred to as a hoplon, since it was in fact called an aspis).

These soldiers probably first appeared in the late seventh century BC. They were a citizen-militia, and so were armed as spearmen, and assumed a phalanx formation, which are relatively easy to equip and maintain; they were primarily drawn from the middle class, who could afford the cost of the armaments. Almost all the famous men of ancient Greece, even philosophers and playwrights, fought as hoplites at some point in their lives.

Since the hoplites were not a militia force and did not receive permanent wages, campaigns were short and mainly confined to the summer. The exception to this

was the Spartan warriors who were dedicated soldiers and had their state alloted lands managed for them by the lower class. Armies marched directly to their target. There, the defenders could hide behind citywalls, in which case the attackers generally had to content themselves with ravaging the countryside (as siegecraft were undeveloped), or meet them on the field. Battles were usually set piece and intended to be decisive. These battles were short, bloody, and brutal, and thus required a high degree of discipline.

Both forces lined up on a level field, usually in a rough rectangular formation around eight ranks deep (though this varied). Other troops were less important; hippeis (cavalry) generally protected the flanks, when present at all, and both light infantry and missile troops were negligible. The most well-known hoplites were the Spartans, who were trained from childhood in combat and warfare to become an exceptionally disciplined and superior fighting force.

Future Technologies

Acro Announces Technology Agreement with LSRI

Acro to provide multi-type explosive tester for commercial and military explosives, complementing its existing peroxide explosive tester.

New York, NY -– Acro, Inc., a developer of explosive detection solutions, today announced the conclusion of the negotiations of a technology agreement with LSRI – Life Science Research Israel Ltd., a subsidiary of IIBR – Israel Institute for Biological Research.

Under the terms of the agreement, LSRI will license the long-proven technology of IIBR's explosives testing kit (ETK) to Acro, for incorporation into Acro's pen-like device, allowing the detection of commercial and military explosives. The agreement is subject to minimum annual revenues to be achieved by Acro and royalties to be paid to LSRI. The technical appendix of the agreement will be signed in the next few weeks.

The new device will complement Acro's ACRO-P.E.T., the company's peroxide explosive tester for the detection of improvised explosives.

"The agreement with LSRI will allow Acro to provide unique, reliable and easy-to-use explosive testers for the entire spectrum of military, commercial and improvised explosives, using the company's patented pen-like tool," said Acro Chairman and CEO Gadi Aner. "This is an important milestone in Acro's evolution as a company offering a full array of explosive testers providing immediate detection in the field."

IIBR's ETK is a portable micro-laboratory for rapid field detection of explosives. It is used by many security forces around the world.

ACRO-P.E.T. is designed for rapid field detection of peroxide-based explosives, such as triacetone triperoxide (TATP). Its main advantages include high sensitivity, high selectivity, fast response, simple operation, small size and cost effectiveness.

About LSRI - Life Science Research Israel Ltd.

LSRI focuses on the commercialization of IIBR's novel technologies and scientific achievements. Established in 1979, LSRI's mandate is to promote biomedical projects and market IIBR-developed products and services. LSRI represents IIBR in the establishment of all forms of collaboration, joint ventures and partnerships with private and public companies. For more information about LSRI, visit www.iibr.gov.il/LSRI.asp

About Acro, Inc.

Acro, Inc. develops explosives detection technologies. The company has developed a unique patented technology for identifying peroxide-based explosives, such as TATP. Acro's Advisory Board includes Prof. K. Barry Sharpless, winner of the 2001 Nobel Prize for Chemistry, and Prof. Richard A. Lerner, President and CEO of The Scripps Research Institute, considered one of the world's most influential scientific institutes. For more information about Acro, visit www.acrosec.com.