



Centauro represents a viable trade-offs in terms of mobility, firepower and protection, but is not a tank. (PHOTO: Finmeccanica)

ITALIAN INDUSTRY LAND SYSTEMS

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Italy has traditionally looked to domestic suppliers to provide its defence capability. This has enabled the industry to develop a comprehensive range of products, which allow a national solution to be offered both to home and international markets. Where this is particularly relevant is in the area of ground equipment where the impact of European consolidation has yet to touch.

The Italian armed forces Beretta AR 70/90 Rifle built on previous export success of the AR70 and AS70/90 LMG. Italy has a wide range of solutions and manufacturers in the field of Tactical Shotguns and the country is notable for its export success and design innovation. Benelli's M4 Super 90 seven-round weapon was selected as the M1014 Combat Shotgun in 1999 and is used by all armed services. Designed to meet exacting reliability criteria, a new gas operating system was introduced to provide for minimal maintenance and reduced recoil. Unusually, the weapon also carried a MIL-STD 1913 rail, enabling it to carry standard night vision and other sights. Franchi's semi-automatic SPAS-15 moves away from traditional

pump action design to an assault rifle, magazine fed approach and was acquired by the Italian Army in 1999 for peacekeeping. Other firms in this sector include Beretta and Bernadelli.

Italy's pistol manufacturers Beretta, Bernadelli and Tanfoglio serve the law enforcement and military community with some success and offer a similarly wide range of quality weapons. Beretta's Model 92FS is the standard US sidearm, where it is known as the M9, as well as with France's Gendarmerie.

Indirect fire can be provided by the Otobreda 81mm light mortar which has a rate of fire of 20 rounds per minute and a range of 5000m. It is carried by its crew of three with a load of no more than 15Kg each. Rome based Simmel Difesa supplies both 81 and 120mm calibres with its 81.4mm S6A2 round

using bomblets capable of penetrating 60mm of steel armour and providing a spread of anti-personnel fragment to at least a 5m radius.

Italy's naval special forces use Officine Galileos's OVG N 3 night vision sight for fighting at night. The sight offers magnification of x3.6, a field of view of 11 degrees and battery life of 35 hours.

Italy's previous expertise in mines has given way to success in force protection. Italy has a comprehensive anti-mine capability being led by CEIA Spa who has exported over 5000 of its MIL-D1 and MIL-D1/DS hand held detectors to countries as varied as France, Sweden Finland and Egypt as well as several others. The Bonifiche firm has been operating since 1960 providing mine clearance and humanitarian demining with

recent work in Croatia and Bosnia. ETEM Srl's security structures offer a range of physical protection to structures and individuals including its modular bullet proof shielding. This is designed such that it allows users to connect the units like 'Lego' blocks to create shields and barriers around compounds. Israel is notable among their customers.

For the Soldato Futuro programme, Italy's Soldier Modernisation Programme, where all these systems are integrated, the domestic customer has decided to source all major subsystems domestically and largely through companies within Finmeccanica's corporate structure allowing the company to offer an off-the-shelf solution internationally in the future.

C4I

Italy's communications business has had considerable export success in the past and continues to be very

active internationally. Marconi's traditional business continues as part of Finmeccanica.

The CNR2000 HF/VHF Combat Radio is the latest man pack and vehicular radio to be offered. Next generation communications are already being pursued with Selex and the Italian Ministry of Defence funding a family of Software Defined Radios to meet the requirement of each service in a Euro150million programme. This is designed to provide a full suite of prototypes by 2009 and will use the open-source US Software Communications Architecture.

In area communications Selex have several export successes with their MH series radio relays in service around the world. Complete suites of area communications are provided by the Selex Mobile Integrated Digital Automatic System (MIDAS), which provides a series of backbone links connecting local networks via access and trunk nodes. For instance it

utilises the company's MH300 VHF/UHF relays and MF15 and MH938 SHF relays.

The capability is supplemented by Selex's continued commitment to troposcatter technology, giving both the Italian armed forces and a number of export customers free-to-use and immediately available beyond line of sight high capacity communications. All this is available, without the need for satcom, to support both military operations and emergency infrastructure links in a civil emergency.

The company also has an extensive range of wired field communications and digital switching equipment supporting EUROCOM and other international standards.

Italy's SICRAL military satellite communications capability, developed by Alenia Spazio, has been supporting Italian and Allied armed forces since 2001 and supporting NATO's core communications since 2005.



The Dardo AIFV is equipped with the HITFIST turret, which has seen additional export success. (PHOTO: Finmeccanica)

Addressing the law enforcement market is the COM CENTER, which has been in service with the Italian police forces since 2002. The system comprises a single touch terminal through which voice and data from disparate sources such as Tetra, intercoms and telephones can be coordinated at an operations centre.

Italy's Army field C3I systems is known as CATRIN and integrates area communications, air and ground surveillance including UAVs and manages army aviation and air surveillance radars while the SICCONA systems provides a Battle Management System that extends to individual armoured vehicles.

The now Selex, Marconi Automated Command and Control information Systems (MACCIS), entered service with the Italian Army in 1992 and has seen service in Bosnia and the former Yugoslavia. A comprehensive C2 system from division down to company level, MACCIS offers a suite of decision aids and other applications for high and low level battle management as well as peacekeeping roles such as supporting civilian evacuation.

Selex offers a full suite of ground based EW equipment for both battlefield and other security roles, while Elettronica and Thales' Italian subsidiary offer jamming equipment

that have been fielded.

VEHICLES

Italy's production of the Consorzio Iveco-DVD Oto Melara Ariete MBT and Dardo AIFV is complete. Meanwhile, Italy is notching up some success in the light and medium weight wheeled vehicle market. The Oto Melara 8x8 Centauro tank destroyer is equipped with a 105mm gun and later variants of the vehicle are supplied with room for a four man close defence section. Protection is provided against up to 20mm in the front arc and up to 12.7mm for other areas. A wheeled IFV variant has also been selected by the Italian Army had been promoted as a solution for the UK's FRES utility vehicle requirement.

In a lighter category, the Oto Melara Puma is a light wheeled APC and reconnaissance vehicle that is more than capable of taking on a host of other roles, such as Anti-armour, Command post and NBC reconnaissance.

Aris SpA offers an unusual M113 upgrade kit. This boosts the APC's amphibious performance and is entering service with the Italian armed forces.

Oto Melara provide the 120mm L44 for the Ariete MBT and have developed a low recoil L45 version

which has been shown fitted to the Centauro Mobile Gun system, installed on the HITFAC turret and has been acquired for trials by the Italian Army. The 120mm APFSDS and HEAT-MP rounds are both supplied by Simmel Difesa.

The 462 Centauro tank destroyers in Italian and Spanish service are equipped with a L52 105mm low recoil weapon. The turret has also been shown fitted to Austro-Spanish ASCOD/Ulan tracked AFVs. Also in the Oto Melara inventory is the 60mm High Velocity Gun System which can fire HE and APFSDS-T at speeds of 1680 m/S.

In the vehicle upgrade field the 'HIT' range of turrets have performed well on the export market. This equipment has been fitted to a number of platforms. The three-man HITFACT 105 and 120 turret is complemented by the more recent 105mm LRF turret. At smaller calibres the company offers the two-man HITFIST turret, designed to accept a range of cannon and anti-tank guided weapons according to customer need. Equipped with the ATK Bushmaster Mk44 30mm chain gun and Rafael's Spike, the HITFIST will equip the Polish Army's 313 AMV 8x8 wheeled AFVs. A 25mm HITFIST is in service on Italy's DARDO fleet. The company's turrets are also in service with Denmark on board the M113A2 and on Spanish VEC 6x6 scout vehicles. The family is complemented by the HITROLE remote weapon station, which is equipped with a M2 12.7mm heavy machine gun.

A full suite of the defence electronics on which modern AFV depend is also on offer from Italy. The Italian Leopard 1A5 MBT, Centauro and DARDO IFV are all equipped with Selex's RALM/02 360 degree laser warning receiver. Galileo Avionica's Tank Universal Reconfigurable Modular system, or TURMS, is a combined thermal imager and laser based fire control system for large calibre direct fire weapons. It has a strong presence with versions installed on Italy's Leopards and Centaruos, while the Czech republic has selected it for its



The 6x6 Puma seen outfitted with the 12.7mm HITROLE remote weapons station. (PHOTO: Finmeccanica)

T72 M4CZ upgrade. The company's JANUS FCS addresses automatic cannons and has been tested on a number of turrets. Elsewhere MES Spa with its CG/DIL day and night scope is fitted on board all Ariete MBTs and Centauro. The company also produces an extensive range of vehicle based day/night gunner's sights, laser sights and thermal imagers. Within the latter group, the VIRS-7 has a number of export customers and has a detection range of 6500m. Galileo's Attila sighting system is a panoramic sighting system for AFV/MBT and as well as domestic customers and has notched up several wins in T-72 modernisation programmes. Selex offers the UIS-379/D Digital intercom to network voice and data throughout the vehicle.

IVECO's Light Multi-Role vehicle has been selected by both Italy and the UK. Protected against IED and mines, the vehicle has a number of features to reduce its signature to battlefield sensors and can be quickly deployed by road, cross country or air. Each LMV can be carried as an under slung role by a CH-47.

A larger variant know as the 4x4 Multi-purpose Medium Vehicle has also been launched which can take higher levels of protection up to NATO



The CNR-2000 is an HF/VHF system available in either man-pack or vehicular mounted systems. (PHOTO: Selex)

Level 3.

In the truck world IVECO provide a range of medium and heavy tactical vehicles. The 6x6 trucks are in service with Spain and Belgium, as well as Italian armed forces. In addition to vehicles designed primarily for the military, Iveco offer versions of their EuroCargo and EuroTrakker vehicles, which have sold more widely with a number of European and South American customers.

IVECO engines are fitted throughout Italy's IFV fleet.

AIR DEFENCE

Italy has a strong presence in the air defence arena. The country offers a complete range of systems ranging from sensors, air defence artillery and participation in pan Europe and wider international efforts.

The Selex RAT-31 land-based phased array radar offers long-range surveillance. The company provides a number of these systems to a variety of worldwide customer including Austria, Croatia, Czech Republic, Denmark, Germany, Greece and Hungary. Two versions are offered, the DL/FADR for air defense purposes and the RAT 31 DL/M which is a long range 3D air surveillance system.

The Spada 2000, in service with Italy, integrates the Aspide missile and 35mm gun system in an air defence system with a 3D radar which is C130 deployable. Successful live fire trials of the system using the Aspide missile were completed in December 2005.

For air defence artillery Oto Melara offer the SIDAM 25 quad barrel 25mm turret, a one-man power-operated turret which fires all NATO standrd 25-mm ammunition including APFSDS giving it an anti armour capability. In higher calibres a twin 40 / 70 mount based on a naval mounting is offered.



The Ariete MBT is lighter than a lot of modern MBTs at 54 tonnes. It deployed to Iraq in 2004