THE MODERNISATION OF THE ROMANIAN NAVY
ASSETS, INNOVATIONS AND SYSTEMS

The Romanian Navy strives to modernise amidst continuing fiscal pressures and reduced naval spending that has characterised the European naval market over the past several years. As with many other Black Sea nations, Romania is investing to acquire the platforms and systems that enable maritime security missions, while also contributing ready naval forces to international naval operations such as those off Libya last year.

BUDGET CONSTRAINTS

The Romanian Navy marked a turning point in 2011 as it dispatched a ship to support NATO missions off Libya. The deployment of the modernised warship “Regale Ferdinand” (F 221), a former UK Royal Navy Type 22 Batch 2 frigate, in support of Operation UNIFIED PROTECTOR proved an invaluable operational experience for the Navy in a combined and multinational operating environment conducting real world missions (see figure 1).

That said and accomplished, the Romanian Navy still confronts budget constraints. The urgent need to replace aging MiG-21 LANCER fighter aircraft and other pressing military modernisation requirements look to delay the acquisition of new frigates, corvettes, or mine countermeasures ships until 2013 and beyond.

ORGANISATION OVERVIEW

With some 6,500 personnel, the Romanian Navy is equipped with 48 ships and craft – a mix of Soviet-era transfers that have influenced subsequent Romanian designs. Two ex-Royal Navy frigates purchased in 2005 represented a departure from the traditional Romanian Navy acquisition strategy.

Bob Nugent
heads AMI International’s Advisory Services covering defence, naval, aerospace, and unmanned markets. He has presented and published widely on naval and related topics. A retired US Navy officer, Bob completed the Naval Postgraduate School and War College and served in Japan, Korea, Russia, the UK, and on the Navy acquisition staff.

Josh Cohen
is an Advisory Services Consultant with AMI International. Mr. Cohen has over 15 years of experience in the commercial and government intelligence sectors, specialising in open source (OSINT) and competitive intelligence (CI) with an emphasis on the global defence industry.
The Romanian Naval Fleet is organised into the 56 Frigate Flotilla, 150 Fast Patrol Boat Squadron, 50 Corvette Squadron, and 146 Mine Countermeasures Squadron. The fleet is located in Constanta and Mangalia at the Black Sea. The 67 Gunboat and 88 River Minesweeping Patrol Boat Squadrons make up the unique Danube River Flotilla with bases in Giutgiu, Braila, Tulcea, Dobreta Turnu-Severin, and Galati (Galatz). The 307 Naval Infantry Battalion, Romanian Navy Combat Divers, and Black Sea Knights Naval Helicopter Squadron round out the fleet's combat forces. Intelligence, training, supply, and medical support units back up the Navy's combat fleet.

56 Frigate Flotilla: Romania's presence for international operations undertaken with NATO is supported by the 56 Frigate Flotilla. In April 2011, the Romanian Navy dispatched one of two "Regate Ferdinand" class frigates to assist operations off the Libyan coast with the mission of interdicting arms shipments.

Acquired in 2004/05 as part of NATO integration efforts, the "Regate Ferdinand" class was upgraded by BAE Systems UK prior to delivery. The class received engine refurbishment, a new rapid-fire 76mm gun, tracking and fire control systems, communications, navigation, safety, and modern torpedo decoy systems. Total compliment is 203. A second refit phase was scheduled for 2008, but never moved forward due to lack of funding. Potential upgrades will likely include a surface-to-air (SAM) and surface-to-surface missile capability (SSM), a hard kill point defence, and a new electronic warfare (EW) and countermeasures suite.

A single Romanian-design, the frigate "Mărășești" (F 111) built in 1978, rounds out the 56 Frigate Flotilla (see figure 2). The vessel was originally classified as a light cruiser, but a top-heavy balance issue and major re-engineering effort saw the ship re-categorised as destroyer. "Mărășești" served as the Romanian Navy's flagship until it was downgraded to a frigate in 2004.

The primary armament of the frigate "Mărășești" consists of eight Soviet-era P-15M TERMIT-R (SS-N-2C/D STYX) anti-ship missiles (ASM) with a 130km effective range. Two AK-726 76/60 twin turret guns for surface engagements are backed up with four AK-630 30/65 close-in weapon systems (CIWS). Two triple 53cm torpedo launchers contain SET 53-65 anti-ship torpedoes. Two small helicopters or unmanned aircraft systems (UAS) can be carried, although none are embarked at present. A new at-sea replenishment system (RAS), SAM, EW, air/surface radar, and combat management system are expected in any future upgrade package.

150 Fast Patrol Boat Squadron: Three "Zborful" class (TARANTUL-I) missile-armed fast attack craft (FAC) comprise this unit. Also assigned to the Black Sea, the squadron is responsible for protecting government-owned offshore oil production facilities and the Romanian EEZ. The squadron also supports training missions for the entire Navy's sea service. Built between 1989 and 1991, there are no plans for major refit or overhaul of the type at this time. The "Zborful" class (TARANTUL-I) missile FAC is fitted with four FASTA-4M launch cells each accommodating one P-15M TERMIT-R (STYX) ASM. Two AK-630 30/65 CIWS stations and one AK-176 76/60 complete the gun inventory.

50 Corvette Squadron: Defending Romanian sovereign territory on the Black Sea falls to the 50 Corvette Squadron. It is equipped with four TETAL (two TETAL I and two improved TETAL II) corvettes (see figure 3), all built and commissioned in the 1980s. Funding shortages, initially due to the "Regate Ferdinand" class upgrade, have delayed TETAL II hull refit and modernisation until recently. In November 2011, the Romanian MoD announced a tender for repairs and maintenance services for "corvette class vessels with associated works as required." Budgetary and policy changes forced cancellation of a third planned TETAL II unit in the late 1990s.

Primarily armed with four AK-726 76/60 and three AK-230 30/65 twin guns, TETAL I corvettes also carry four SET-65E torpedoes. The class has a compliment of 98. The two TETAL II corvettes are armed with two AK-630 30/65 CIWS, one AK-726 76/60 twin primary gun, and three AK-306 30mm secondary weapons.

If the Romanian Navy decides on a major TETAL II refit or additional new hull build, Dae woo Mangalia Heavy Industries (DMHI), the naval design centre at Galati, and foreign technical assistance would be required. A modern C3 system, EW upgrades, new air and surface search radars, SAM and ASM systems, and an improved replenishment-at-sea capability will be called for to maintain visibility across the spectrum of potential regional threats.

The corvette squadron is reinforced with three aging "Nalucu" class (EPTROP design) torpedo patrol boats. These Romanian-built, Soviet-era "Osa" class variants are powered by Chinese-made Type M503A diesel engines and require a crew of 22. AK-230 30/65 twin 30mm guns and four SET 53-65 torpedoes arm the class. Built from 1979 to 1981, there are no plans to refit these hulls at this time.

146 Mine Countermeasures Squadron: Clearing mines from Romanian waterways, ports, and river entrances is tasked to the 146 Mine Countermeasures Squadron. Composed of two Romanian-built "Musca" class minesweepers, these vessels are authorised for limited participation in NATO and humanitarian missions in addition to their national tasking. The minesweepers are armed with two AK-230/65 30mm guns and STRELA-2 (9K32 System) SA-7/SA-N-5 GRAIL SAM. A single "Cosar" class minelayer provides the Romanian Navy with an offensive mine capability. The minelayer is equipped with one AK-257 57/70 twin gun, two AK-230 30/65 twin cannons, and two 14.5mm quad machine guns. Plans call for the eventual replacement of the class, funds permitting. Future requirements may open the potential for remote or autonomous operated vehicles in the countermine role.

Danube River Flotilla: Established in 1860, the Romanian flotilla's primary missions were to prevent invading troops from crossing the Danube into Romanian territory and maintain the waterway as a supply and communications channel. The Flotilla was re-established in 1995 and is responsible for border patrol, counter-proliferation, and crisis support. Recently called
upon to perform the later, Defence Minister Gabriel Oprea directed the military to provide relief supplies to isolated population areas along the Danube after being cut off by a severe storm in February 2012. Two tugboats, the "Grozavu" and "328" ferried passengers and emergency food supplies to areas inaccessible by air and overland routes.

Composed of the 67 Gunboat Squadron and the 88 River Patrol Boat Squadron, the Danube River Flotilla is equipped with three Romanian-designed "Mihai Kogălniceanu" class river monitors. An uncommon design, the class is heavily armed with two 100mm guns housed in TR-85 tank turrets, intended to provide river-mobile fire support to ground forces. Two AK-230 30/65 30mm guns and two 40-barrel BM-21 122mm rocket launchers also equip the monitors.

Five "Brutar" class armoured patrol boats, armed with a single adopted TR-85 100mm turret, and 12 VD 141 river patrol boats complete the Danube Flotilla’s current inventory. The Romanian Navy has a requirement for modern river patrol boats to replace the "Brutar" class and "Mihai Kogălniceanu" class monitors. Any replacements will be required to perform non-traditional missions such as environment clean-up while continuing traditional roles of search and rescue, embargo enforcement, peacekeeping, humanitarian aid, and smuggling interdiction. Due to the relative age of the "Brutar" and "Mihai Kogălniceanu" hulls, the Romanian Navy may begin conceptualisation for a new class of up to ten units by 2016. A contract award may be expected before 2020.

307 Marine Battalion: The Romanian Navy’s Special Operations-capable naval light infantry reconnaissance battalion was formed in 1970. Tasked with defence of both the Black Sea and Danube Delta regions, the battalion’s operational capabilities are similar to a US Marine Corps Reconnaissance Battalion. The 307 Battalion is equipped with light weapons and ABC-79M amphibious armoured personnel carriers, a local copy of the Soviet-era BTR-70. In an effort to increase interoperability, in 2011 the 307 Battalion and US Marine Corps units conducted a five-day amphibious bilateral exercise SUMMER STORM. The 307 Marine Battalion also holds exercises with other NATO naval infantry formations. Elements of the battalion are held at high alert for NATO activation, available for global deployment within 72 hours. The 307 Battalion has seen duty in Iraq as part of the Black Sea Rotational Force, in addition to Afghanistan with the International Security Assistance Force.

Naval Divers: Romanian Navy combat divers and underwater explosive ordnance disposal sections are organised as sub-units of the 39 Naval Divers Centre. The combat divers are specialising in underwater demolition missions with limited ground and airborne training as compared to US Navy SEALs (Navy Sea Air Land). The diver support ship "Midia" deploys combat divers, explosive ordnance disposal teams, and diver propulsion vehicles. A second diver support ship is maintained for training at the Romanian Navy’s Diving Centre in Constanta. Naval divers have been involved in numerous NATO/PIP exercises, training with counterparts on explosive ordnance disposal (EOD) drills.

NAVAL AVIATION ARM

From 1960 to 2001, modified Romanian Air Force PUMA and ALOUETTE III helicopters supported naval aviation missions. Aging airframes and competing budget priorities eventually ended the Air Force contribution. In 2005, the Romanian Navy ordered three new IAR-330 PUMA naval helicopters for frigate operations. Official reestablishment of the Black Sea Knights Naval Air Wing followed in 2007, 47 years after the original Air Arm was disbanded. The Navy’s new naval PUMA helicopters, located at Constanta Naval Air Base, were delivered between 2007 and 2008. With a configuration similar to Romanian Air Force models, Navy versions are equipped with the same EO sensor, avionics, and navigation suite, major differences being emergency rotation gear and searchlight. The third Navy PUMA was delivered with surface search radar installed below the cockpit, leading to the possibility of a future anti-ship missile armament. In 2011, the Romanian Navy’s new Naval Aviation Arm and its eight helicopter pilots conducted deck-landing qualifications on the landing dock ship USS "Whidbey Island" (LSD 41) as part of bilateral exercise SUMMER STORM. The Romanian Navy recently started training programmes for naval aviation personnel; two petty officers were accredited as helicopter maintenance experts. Additional helicopters may be acquired in line with future shipbuilding plans.

ROMANIAN BORDER POLICE

With a major role in national counter-proliferation and counter-terrorism operations, the Border Police is equipped with five "SNR-17" class patrol boats delivered in late 2010. Built in Turkey at Istanbul Shipyard, the patrol boats are equipped with FLIR night navigation systems, explosives sensors, and Geiger counters at a cost of approximately €7.5M. The boats are stationed at the Ukrainian, Moldovan, Hungarian, and Serbian Danube River borders. Efforts to strengthen the Border Police also included delivery of a Damen "950" class OPV, funded by the European Union.

SUPPORT, LOGISTICS AND TRAINING

A single Romanian-designed "Croitor" class replenishment support ship "Constanta," a sea-going tug, and two tankers provide at-sea logistics support to the fleet. A naval battalion and logistics organisation operates a maintenance
hub with subsections at Mangalia, Braila, Tulcea, and Constanta. A naval training and petty officer school and service academy provide rating and professional academic preparation. In 2005, the Romanian Navy Training Simulation and Evaluation Centre was established to provide operational training and test combat procedures. The Navy’s Naval Medical Centre has been upgraded and modernised with new equipment, now providing joint support among Romanian Armed Force branches. A subordinate group reporting to the naval staff, the Romanian Navy Information Technology Centre, ensures networked systems remain operational. The service’s Maritime Hydrographic Directorate is equipped with a survey vessel and two patrol boats and maintains navigational and hydrographic and meteorological information.

**EW AND BLACK SEA MARITIME SURVEILLANCE**

Supporting the fleet, the Romanian Navy Radio Electronics and Surveillance Centre, decorated by Presidential Unit Decree, provides active and passive EW support, research, analysis, and validation. The unit prepares and disseminates information across fleet commands. The Navy’s capability to detect and monitor vessel movement on its Black Sea border was enhanced in 2008 with the installation of a maritime surveillance system valued at US$11.4M. Composed of radar and EO-equipped radio-linked sensor stations, the system has a C2 centre able to coordinate and facilitate rescue at sea. At the same time, two US$16M High-Frequency Surface Wave Radar systems were acquired adding all weather continuous coverage.

**SUPPLIER TRENDS**

The majority of active Romanian Navy ships were constructed in local shipyards and based on ex-Soviet designs. Several decommissioned units, including the “Delfinul” class (877E KILO type) submarine, were built in the former Soviet Union. Since the early 1990s, the Romanian Navy has been slowly restructuring and modernising its vessels for NATO compatibility. All future procurements for the Navy are expected to involve Western European or US designs. Construction of new vessels can be expected under license at local shipyards to increase and modernise Romania’s industrial capacity. DMHI is the primary shipbuilder for the Romanian Navy. In 1994, DMHI purchased 51 percent of the stock in the shipyard as part of the Romanian government’s privatisation efforts. Damen Galatz Shipyard S.A built four “Democratia” (M-40) class patrol boats (former minesweepers) in the 1950s. Galatz also established a formal relationship with Damen Schelde Naval Shipbuilding (DSNS) for construction of their ships. The second “Rotterdam” class LPD for the Royal Netherlands Navy was completed in Galatz. A third yard, Aker Braila, constructed two “Croitor” class auxiliary ships and four degaussing ships in the 1980s.

**SHIP CONSTRUCTION PLANS**

The Romanian Navy has a requirement for a modern force of versatile frigates to protect its territorial waters, rights, and interests in international waters. Participation in NATO and international peacekeeping and humanitarian operations, as outlined in the Ministry of National Defence strategy and planning document *Romanian Defence 2006*, calls for force modernisation, specifically the need for new corvettes to begin replacing the Navy’s surface combatant force.

In 1997, the sea service began conceptualisation for a new class of up to four frigates to eventually replace the second-hand “Regele Ferdinand” class. At the time, DSNS, DCNS, Fincantieri, ThyssenKrupp Marine Systems (TKMS), and BAE Systems were contenders. Strong interest shown was in DCNS’ GOWIND OPV corvette design (see figure 4). While conceptualisation for a new-construction frigate may have already begun, the current economic downturn and reprogramming of funds for fighter aircraft has postponed issuance of a Request for Proposals (RFP) until at least 2014. At such pace, a construction contract would not occur until 2016 at the earliest. If ordered, new vessels could begin entering service in 2019. Estimates for the frigate programme run as high as US$2Bn. At the time, media reports indicated DCNS quoted a price of US$900M for four GOWIND multi-purpose patrol combatants.

**FUTURE FLEET**

The document *Romanian Defence 2006* calls for future procurement of up to 20 new naval units, including frigates, corvettes, MCMV, and river monitors. The Romanian Navy also has a requirement for a modern Strategic Transport Ship (STS) to support troop movements and perform underway replenishment for large surface combatants in support of NATO, international peacekeeping, and humanitarian operations. A construction contract could be in place by 2015, with the first-of-class commissioning in 2017. Plans to acquire new batteries for the Romanian Navy’s single Type 877E KILO diesel submarine, inactive since 1995, have been put on hold indefinitely due to higher budget priorities. The submarine “Delfinul” is based at the Romanian Navy Naval Academy serving in a training role. There are no plans to acquire a replacement, although increasing availability of inexpensive small diesel submarines may provide future possibilities.

However, budget pressures and the increasing attractiveness and affordability of multi-role OPV and corvettes may cause a shift in requirements for Romania’s naval fleet as it transitions from its current Cold War-influenced Soviet-designed hulls toward platforms capable of full NATO maritime integration as well as non-traditional missions.

*For additional information on the Romanian Navy see WORLD DEFENCE ALMANAC 2012, Page 165.*