

ENSURING SECURITY AT SEA

ARES
SHIPYARD



Turkey's ARES Shipyard has built up in a little over 10 years to become the country's fastest-growing company and its largest exporter of military boats and ships. By employing the latest technology in both construction techniques and design, ARES products lead the way in the fields of patrol and fast attack, as well as other sectors. The company's latest vessel to enter trials, the ARES 150 Hercules for the Qatari Coast Guard, is the fastest offshore patrol vessel in the world, and highlights the ability of ARES Shipyard to develop and produce world-class vessels that are tailored to meet exacting customer specifications and demanding schedules.





ARES SHIPYARD: A FAST-GROWING, AWARD-WINNING COMPANY

Kerim Kalafatoğlu,
ARES Shipyard
Chairman and
Executive Director



Founded in 2006 by the Kalafatoğlu family, ARES Shipyard was initially established to produce small pleasure craft and fishing boats, based on the family's long tradition of shipbuilding and sailing. In order to grow the company significantly, a strategic decision was taken to move into the military and para-military sectors, drawing on the company's expertise in working with steel, aluminium and composite construction.

By investing heavily in elements such as human resources, organization and quality management, integrated logistics support and advanced production technologies, ARES Shipyard has achieved its aim and has secured numerous sales to naval

forces, coast guards, maritime police and port security agencies, and to customs enforcement directorates. Many of these sales have been to export customers, including those in Bahrain, Georgia, Nigeria, Northern Cyprus, Qatar, Tanzania and Turkmenistan.

BLUEPRINT FOR SUCCESS

At the heart of ARES Shipyard's success are its willingness to partner with leading design and equipment providers around the world such as BMT Nigel Gee and Rolls-Royce to produce best-in-class vessel designs, to use the latest technology and highly-trained personnel to ensure superior build quality, and, above all, to fully engage with the

customer at all stages to ensure that their needs are met or exceeded.

These principles have resulted in the shipyard delivering more than 100 vessels of varying sizes to date. The company's facilities are located in the Antalya Free Zone on Turkey's Mediterranean shore and comprise three air-conditioned units with a combined floor area of 22,000 square metres. As well as construction facilities for both metal and composite hulls and superstructures, the shipyard boasts paint ovens, workshops for various materials, and a harbour launch capability. There are also modern offices, and training classrooms for the support of customers.

STATE-OF-THE-ART PRODUCTION FACILITIES

Shipbuilding has been an important industry along Turkey's southeast coast for centuries, and ARES Shipyard continues that tradition with the latest technology for the production of steel, aluminium alloy and composite hulls. The company holds ISO 9001, ISO 14001 and ISO 18001 Quality Management System accreditation, and

also holds a Turkish Ministry of Defence production licence. This is accompanied by NATO and National Confidentiality Facility Security Certificates from the ministry.

To ensure that high standards are consistently met the company has invested heavily not only in its quality management

processes and construction technology, but also in its personnel. A highly-skilled, adaptable and energetic workforce ensure that the company's products meet high standards of build quality and reliability, while also being able to meet individual customer requirements.



ARES Shipyard has become Europe's leading builder of composite hulls for patrol boats, and its 48-metre hull for the ARES 150 Hercules is the largest composite hull to be built in Turkey. The shipyard is the only one to be employing full vacuum infusion and epoxy resin technologies for the production of military boats.

EXCELLENCE RECOGNIZED

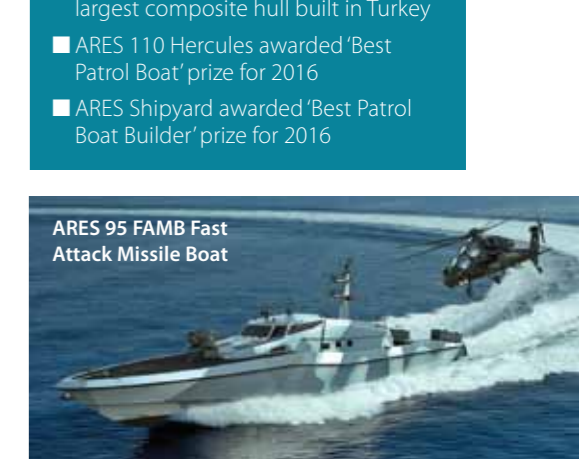
To underline that ARES Shipyard is steering the correct course, the company was recognized by the Turkish government as the country's fastest-growing company over the last five years, having grown by 4,000 percent. It is now the country's most successful exporter of ships. Moreover, the

company was awarded the 'Best Patrol Boat Builder' prize in 2016 by the Australia-based *Work Boat World*, which also gave the year's prize of 'Best Patrol Boat' to the ARES 110 Hercules produced for the Qatari Coast Guard.

ARES continues to stand ready to meet future requirements, offering its unique mix of dynamic engineering and customer-focused solutions. They are backed by an energetic integrated logistics support team that engages customers throughout the life-cycle of the vessel's development and deployment, from the initial contact, through delivery and implementation into service, to support throughout the vessel's operational life.

ACHIEVEMENTS AT A GLANCE

- Turkey's largest military ship exporter
- Largest composite boat-builder in Europe
- World's largest builder of composite hull patrol boats
- Only shipyard using full vacuum infusion/epoxy resin technology for naval applications
- Hercules programme for Qatar is the world's biggest composite military ship export programme and Turkey's largest military ship export programme
- ARES 150 Hercules is the world's fastest Offshore Patrol Vessel, and the largest composite hull built in Turkey
- ARES 110 Hercules awarded 'Best Patrol Boat' prize for 2016
- ARES Shipyard awarded 'Best Patrol Boat Builder' prize for 2016



Following an extensive evaluation of its proposal ARES Shipyard was contracted in April 2014 to supply multi-role patrol craft to Qatar's Ministry of the Interior, on behalf of the Coast Guard Command. At the end of 2017 the company was nearing the completion of the delivery process.

Known as the Hercules programme, the Qatari Coast Guard contract covers a total of 17 vessels in three lengths, making it the largest military ship export. Designed by BMT Nigel Gee, the Hercules vessels are fully customized to meet the Qatari Coast Guard's needs, and provide the agency with a much-expanded capability to patrol and secure the nation's waters.

The vessels themselves have been tailored to meet the needs of operating in the Gulf waters, where they encounter little in the way of ocean swell. However, the Gulf is known for experiencing choppy conditions, which can adversely affect patrol boats when travelling at high speed by producing a high frequency of sharp impacts that can shorten the hull's structural fatigue life, as well as affect the superstructure and onboard systems. BMT Nigel Gee employed advanced computer techniques to minimize the affect of chop, while the interior has been carefully designed to keep noise and vibration to a minimum. Not only does this protect onboard equipment, but also makes for a more comfortable working environment for the crew.

Following contract signature a critical design review was implemented and approved



The ARES 75 Hercules 24-metre fast patrol boat was first delivered in October 2016, and all five are now in Qatari service

HERCULES PROGRAMME

in 2015, after which time construction of the vessels got under way at Antalya. The contract called for deliveries to be made over a five-year period, but by the end of 2017 ARES was around 18 months ahead of schedule, highlighting the company's abilities to be develop, test and manufacture new classes of vessel in a much shorter timeframe than is traditionally encountered in military shipbuilding programmes.

Hercules covers the provision of five 24-metre ARES 75 and ten 34-metre ARES 110 fast patrol boats, plus two 48-metre ARES 150 offshore patrol vessels. The first deliveries

were made in October 2016, comprising two ARES 75s and a single ARES 110. By the end of 2017 all of the ARES 75s had been delivered, along with seven of the ARES 110s and the first of the ARES 150s OPVs.

MISSION SYSTEMS

As well as overseeing the development of the vessels, ARES has also developed integrated weapon and mission systems under supplemental contracts to increase the vessels' baseline capabilities. In the case of the Qatari boats they are all provided with an Aselsan STAMP 12.7-mm auto-stabilized remotely-controlled machine gun, while the 34-metre

and 48-metre vessels have greater firepower thanks to an Aselsan SMASH 30-mm auto-stabilized remotely-controlled cannon. Sensor systems include the Safran Vigy Engage electro-optical system fitted to all 17 vessels. Additional capabilities for the ARES 110 and 150 include the ability to carry and launch 7.5-metre fast interceptor boats.

INCREASED EFFECTIVENESS

For the Qatari Coast Guard the delivery of the Hercules series represents a significant increase in the force's overall operational capabilities. As tensions in the Gulf region grow, an effective maritime patrol force is an increasingly vital asset. This is especially true for Qatar, whose offshore gas fields are the economic lifeblood of the nation.

In Qatari service the Hercules boats are employed on a variety of missions, including the patrolling of littoral waters and the escort of commercial vessels. They are tasked with search and rescue duties, and also with operations to counter smuggling, terrorism, illegal immigration and human trafficking. Their quiet operations allow them to be used for covert surveillance.

The largest of the vessels, the ARES 150, provides the Coast Guard with significant long-range/long-endurance capability, while its performance allows it to undertake high-speed dashes to an area of interest. Along with the ARES 110, it can launch fast interceptor boats for boarding and chasing duties, the larger vessel providing command and control during such operations.

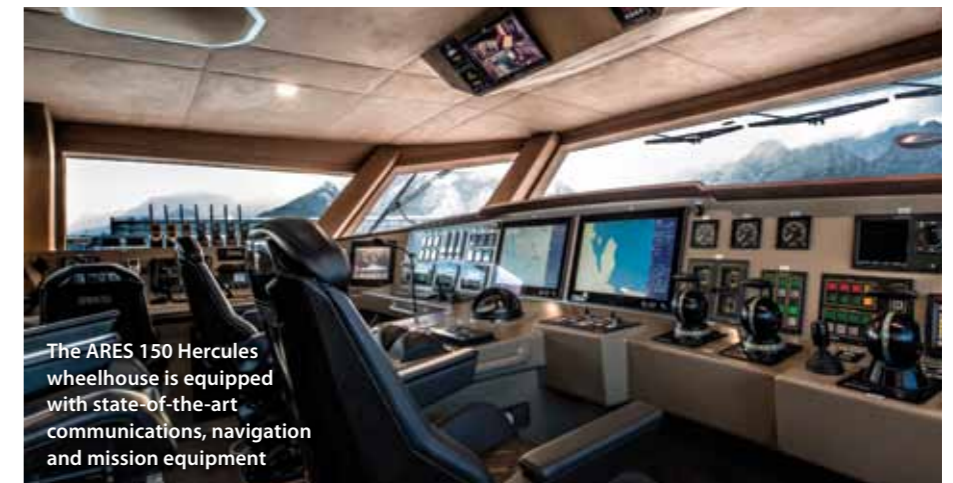
TRAINING AND SUPPORT

The Hercules programme for Qatar showcases ARES Shipyard's approach to integrated through-life support, with the customer participating in the design phase from the outset. Rather than make the mission fit the vessel, the ARES concept is the opposite, in which the mission requirements are the principal driver behind the design proposal. Only with the mission parameters established is the right vessel selected as a platform to best meet those requirements.

Following the design, development and initial construction phases, the company is fully involved in entry-into-service support. To smooth this process ARES Shipyard has instigated a comprehensive

on-site training plan under which the company is training 275 Qatari Coast Guard personnel under a 654-day training plan. Each crew destined to serve aboard the 24-metre ARES 75 boats receives a 30-day training programme, while those assigned to the 34-metre ARES 110 train for 40 days. Crews for the 48-metre ARES 150 OPV receive 52 days training.

Timely in-service support is provided by an on-site maintenance team, while a warranty engineer support service is provided by a team of six former Turkish Navy officers and engineers, who are available on a 24/7 basis. The vessels themselves are covered by a five-year hull warranty.



The ARES 150 Hercules wheelhouse is equipped with state-of-the-art communications, navigation and mission equipment



Seven of the 10 ARES 110 Hercules 34-metre boats had been delivered by the end of 2017



A 34-metre ARES 110 Hercules emerges from the ARES Shipyard facility in Antalya



Hercules fast patrol boats are loaded on to a freighter for delivery to the Qatari Coast Guard



ARES 75 HERCULES FAST PATROL BOAT

The smallest of the Hercules vessels, the ARES 75 is also the fastest, with its current Rolls-Royce/MTU water jet propulsion system giving it a 40-knot capability. With a small revision to the main propulsion system configuration the boat is capable of achieving 50+ knots. The boat has exceptional agility and its sea-keeping characteristics allow it to undertake open-

sea operations on a variety of military, security and rescue duties. A single 12.7-mm machine gun is mounted on the foredeck, controlled remotely from within the cabin. The vessel is equipped with an electro-optic sensor system that provides day/night search and surveillance capability. The Hercules programme includes five ARES 75 vessels.



ARES 75 HERCULES

Length overall	23.99 m
Beam	5.70 m
Hull draught	1.20 m
Displacement	59 tons
Maximum speed	40 knots
Main engines	2 x MTU
Propulsion system	2 x Rolls-Royce WJ
Construction material	Advanced composites
Classification/survey	TL/HSC-N



ARES 110 HERCULES FAST PATROL BOAT

Winner of *Work Boat World's* 'Best Patrol Boat 2016' award, the ARES 110 is the most numerous vessel in the Qatari order, with ten contracted for, and will be the 'workhorse' of the Coast Guard fleet. Its current Rolls-Royce/MTU water jet propulsion system gives it a 33-knot capability but with a minor revision to its main propulsion system configuration the boat is capable of achieving 45+ knots.

Along with 12.7-mm and 30-mm armament from the Turkish Aselsan company, the vessel has a Safran electro-optic sensor turret. As with other Hercules vessels it has a suite of maritime communications equipment and radars. The vessel can launch and recover a 7.5-metre fast interceptor craft such as the four-seat ARES 24 Harpoon, a carbon composites vessel with a 45-knot maximum speed.



ARES 110 HERCULES

Length overall	34.37 m
Beam	7.50 m
Hull draught	1.45 m
Displacement	130 tons
Maximum speed	33 knots
Main engines	3 x MTU
Propulsion system	3 x Rolls-Royce WJ
Construction material	Advanced composites
Classification/survey	TL/HSC-N



ARES SHIPYARD

ARES 150 HERCULES OFFSHORE PATROL VESSEL

The world's fastest OPV, the ARES 150 employs an advanced composites hull that provides exceptional sea-keeping qualities for extended open-sea missions. The hull itself is the largest to be made out of composites in Turkey. Qatar has two of these vessels on order, the first of which began sea trials in late 2017.

Like the ARES 110, the ARES 150 mounts a remotely-controlled 30-mm cannon on the foredeck, as well as a 12.7-mm gun, to provide versatile firepower that can be adapted to a wide variety of potential scenarios.

The aft deck provides open storage and

rapid-launch capability for two 7.5-metre fast interceptor craft such as the ARES 24 Harpoon, also constructed using FRP composites. Combined with the OPV's 35-plus knots, the 45-knot capability of the ARES 24 gives the operator an impressive rapid-reaction capability against emerging threats.



ARES 150 HERCULES

Length overall	48.09 m
Beam	8.95 m
Hull draught	1.78 m
Displacement	275 tons
Maximum speed	37 knots
Main engines	3 x MTU
Propulsion system	3 x Rolls-Royce WJ
Construction material	Advanced composites
Classification/survey	TL/HSC-N



ARES 125 FAMB Fast Attack Missile Boat

VERSATILE VESSELS

While it stands ready and able to develop new vessels along with its key partners to meet customer requirements, ARES Shipyard also offers a diverse and impressive portfolio of vessels that it has already developed. The company classifies its offerings into the categories of patrol boats, naval craft, and utility/support vessels. In addition to its military and government agency offerings, the company also builds pleasure craft and yachts.

In the patrol boat category the company offers the Skadi 90 offshore patrol vessel designed by Rolls-Royce. At 90 metres overall length and with a displacement of 2,100 tons it is the largest ship in the company's military portfolio, and comes complete with an aft landing deck and hangar for a naval helicopter. The slightly smaller Skadi 70 can also carry a helicopter, but lacks hangar accommodation.

Other offerings in this category cover a range of fast patrol boats and OPVs in varying sizes and capabilities, including the Hercules series of composite hull boats. As well as the three Hercules variants selected by Qatar, the family includes the ARES 85, 115, 125 and 140 designs. The ARES 42 fast patrol boat is designed for law enforcement and counter-terrorism duties, among others,

and incorporates ballistic armour protection. A range of aluminium alloy hull designs is also available, as is a family of Harpoon fast interceptor boats, including the ARES 40 Harpoon with a range of powerplant options and a top speed of up to 80 knots.

In the naval craft category are missile boats ranging from the Rolls-Royce-designed 70-metre and 63-metre Freyja vessels, with cannon armament and lateral-firing missile launching tubes. Smaller fast attack missile boats are available that carry forward-firing missile launchers on the aft deck. Related



ARES 63 Atilgan missile boat for the Turkish Navy's Fast Attack Craft programme

are a family of SAT special operations forces support and fast attack craft. The largest of them, a derivative of the ARES 150, has an aft deck for the launch and recovery of a small/medium helicopter.

ARES also offers a number of fast landing craft designs, including BMT Nigel Gee's Caimen-200 that can deliver large armoured vehicles to the beachhead. Other capabilities catered for by the ARES Shipyard catalogue include ambulance vessels, ships tailored for search and rescue operations, and fire-fighting vessels.



Caimen 200 LCT

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