

The Rise of Europe's Defense Sector

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"Europe has never been so prosperous, so secure nor so free." This declaration introduces the European Security Strategy (ESS), a document that guides the European Union's international protection plan. However, its conclusion states that "the world is full of new dangers and opportunities," arguing that in order to ensure security for Europe in a globalizing world, multilateral cooperation within Europe and abroad is imperative, because "no single nation is able to tackle today's complex challenges."

With combined defense expenditures of approximately €193 billion (\$248 billion) among the 25 nations of the EU in 2005, the European defense industry has become an economy in itself. In July 2004, the European Defense Agency (EDA) was set up as a mandate of the European Security and Defense Policy to promote collaboration within the European defense industry. Its intent is to improve member states' defense capabilities, enhancing competitiveness for both established industry giants as well as for smaller centers of excellence in Eastern European countries.

EU High Representative for the Common Foreign and Security Policy (CFSP) Javier Solana says that although the European defense sector today is globally competitive, a broad agreement was made to "spend more, spend better and spend more together." Solana identifies a major challenge facing Europe's defense industry as the need to sustain and grow its export business. "For far too long, defense procurement has been a matter of national governments considering national needs, creating national plans, launching national armaments programs, and procuring equipment from national suppliers. The key is for us to identify common priorities and capabilities, deciding where we can consolidate demand and allow our industries to operate on a continental scale."

This view is shared by Günter Verheugen, EU Commissioner for Enterprise and Industry. Excessive protectionism and decreased spending on defense have stifled competition and consolidation, especially given that US defense spending outstrips the EU two to one and the rest of the world by a factor of five. "If anything in Europe

needs harmonization it is our defense system," urges Verheugen, adding that the EDA can play an important role in this field, having already achieved success with its Code of Conduct on Defense Procurement, a centralized and transparent tender system. Verheugen sees increased US-European defense industry cooperation as not only advantageous for European producers, who currently find it difficult to sell in the US, but in the long run he also believes it will benefit the Americans. "Sooner or later the US will create a clear monopoly for her defense technologies. It will happen to them like it happened to Microsoft, which I don't think is healthy. US defense spending in Europe is just over a billion dollars a year, and we certainly could increase the efficiency of both sectors if we could co-operate better."

EDA's CEO and former UK Minister of Defense Nick Whitney believes research and development are needed to boost the technological and industrial base of Europe. Apart from full systems integration by the four majors (EADS, Thales, Finmeccanica and BAE Systems), Whitney says: "the new member states are very important. Many of these countries can contribute a great deal intellectually and technologically." He adds that this includes newer states from the latest enlargement, Bulgaria and Romania, who joined the European Union in January this year. "Essentially there is a need to accept that we can none of us afford to keep going forward with a single national defense, and this is not a political project, it is practical common sense. What is required is for Europeans to cooperate and pool their efforts and resources."

Placing Poland at the Frontlines of Defense Systems

For EU member states like Poland, being competitive doesn't necessarily mean trying to take on the big six (France, Germany, Italy, Spain, Sweden and the UK) or even the major defense companies. Where they can excel is in creating Centers of Excellence for niche products instead of attempting to produce the entire line of products themselves. Francois Gayet, Secretary General of the AeroSpace and Defense Industries Association of Europe (ASD) explains, "one example is an initiative Poland took in 2003 to create what they called the Aviation Valley." Gayet says the Polish defense industry, similar to those of other Eastern European countries, had sizeable conglomerates manufacturing large quantities of supplies for the former Soviet Union and had built up a long tradition of expertise and a highly trained work force. He describes how one manufacturer of aviation engines was able to adapt its existing strengths to the new market. "They completely rebuilt the plant and focused on specific engine parts, mainly subcontracting to Pratt & Whitney, which in turn invested in the plant, creating a win-win situation."

"Our main goal is to cooperate with American companies," says Leszek Pawloski, President of Radwar S.A., a subsidiary of Poland's dominant state defense holding company the Bumar Group. "The most important aspect is the possibility to develop new technologies and products." Radwar is Poland's prime manufacturer of radar systems, command and control systems, and air-defense systems. Following recent joint tests, the US military was impressed not only with Radwar's systems and staff but additionally with the swift solutions and service it presented in the field. According to Pawloski, "Our strength is that our products are up-to-date, modern, and our prices attractive." Besides supplying the Polish Ministry of Defense and civil police force with 60 percent of its production, Radwar also

exports to Asia and Africa, and is currently in discussions with Indonesia, India, and Malaysia.

Also operating in the field of defense electronics is Teldat. The young company, headed by founders Henryk Krsuzynski and Marek Cichocki, is a testament to Poland's capacity to produce cutting-edge defense systems and offers complete telecommunications, informatics, data transmission, and alarm systems. "We have a big human potential in Poland," says Krsuzynski. "Many people have been educated in technical universities. Especially in the IT branch they can take up very complicated technologies." Teldat's systems have been tried and proven successfully in a variety of international maneuvers, including Operation Combined Endeavour, an annual US-sponsored interoperability exercise. "The crucial feature that makes our devices different is that they can work directly with radio and satellite systems in field conditions," explains Cichocki of the ISO-certified company. Teldat hopes to extend its foreign cooperation while exhibiting at the 2007 MSPO defense fair in Kielce, where a US delegation will be the guest of honor.

The general consensus within the Polish defense industry, as President Wlodzimierz Budzinski of parachute manufacturer Air-Pol points out, is that it is dependant on joint ventures on both intellectual and financial levels. "You need the technology and the money, so the only viable option is to partner with Western companies." Air-Pol was one of the pioneers of this philosophy, when Budzinski joined forces with a captain of the Royal British Air Force in 1988 to set up the enterprise. Having built a globally renowned name in high-quality parachutes, self-financing Air-Pol was able to realize its initial goals and objectives. Now, in order to completely unfold its full production potential, the company is actively looking for a

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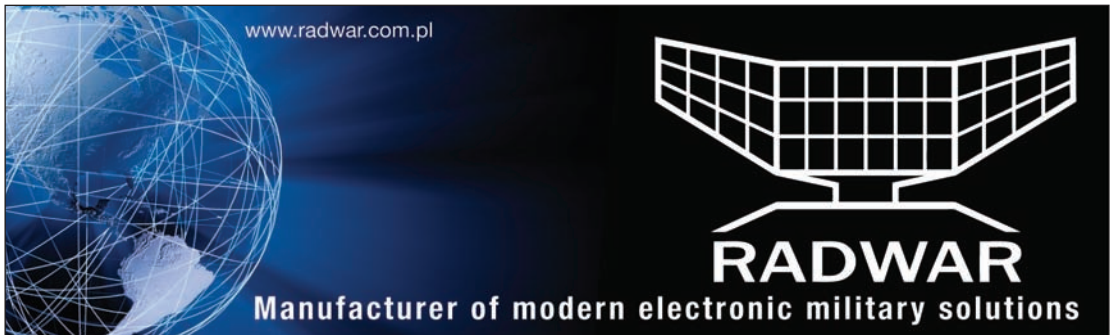
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truly international partnership. Budzinski accepts that “the US is the only power which is global, but the potential of Poland is so huge that if it is well used we could foster partnerships worldwide.”

Another reason Polish companies partner successfully with their US counterparts is the country’s low overhead costs. According to Marek Wosko, President of telecommunication equipment marketer MAW Telecom, “Poland’s low labor costs naturally attract investment from outside the EU and the country may become a platform for the EU and perhaps the rest of Europe.” Although Wosko started out providing the first cellular devices to the Polish Ministry of Defense in 1993, MAW has expanded its business to include de-mining equipment and complex project management in services and installations. “One of the products we are very proud of is the Multiband Inter/Intra Team Radio (MBITR) with Thales US,” says Wosko of the Joint Tactical Radio System used by US Special Forces. “The idea is to make a broadband software programmable radio,

increasing interoperability between different forces.”

MAW Telecom, which became a joint-stock company in 2003, markets major telecommunications solutions in Poland, and being a private company had to work hard on developing personal trust with military customers and obtaining the required certificates, permissions, and licenses, a process that should be simplified within the framework of the new EDA Code of Conduct. It is also planning on expanding beyond the EU by representing its investors in Middle Eastern and Latin American markets. Wosko sees an opportunity for the private sector to cooperate with the state-owned sector, and believes there is room for improvement in opening up US-Poland ties. “I hope US policy will be influenced to become more advantageous for Poland, because so far the military, political, and commercial benefits are not symmetrical to what Poland is providing.” Through its solid business relations MAW Telecom, like many of its Polish peers, is proof of an accountable partner on the frontlines of the global defense industry.



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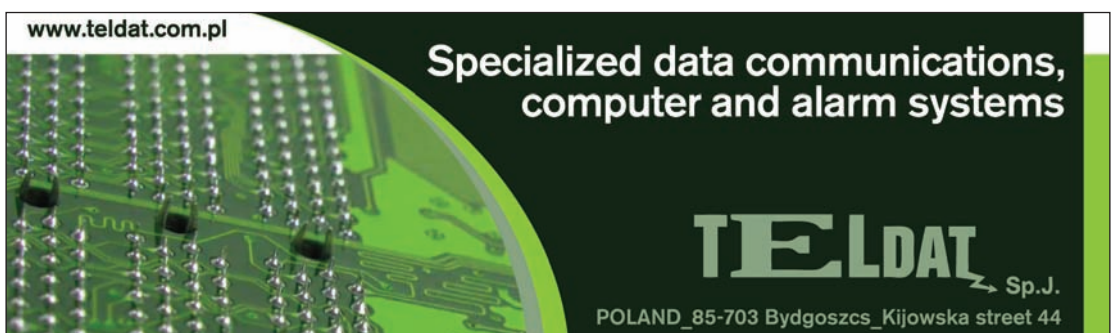


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Fincantieri | Italian Shipbuilding Group Heads for New Horizons

The vision of a unified Europe is by no means a conception of our generation alone. Its roots go back some two and a half millennia, when the Roman Empire encapsulated the same ambition, be it on a much less diplomatic premise. Europe version 1.0 lasted for over 5 centuries, and would not have been achieved without the mastery of the empire's naval force. Reinforced Trireme warships ruled the Mediterranean, while Doliums, the first type of logistic vessels, transferred food, supplies and provisions to and from the new territories. Rome's expansion hence became the basis of innovation in shipping and naval defense.

In a way, the world's oldest shipbuilding industry still continues today in Italian docks and shipyards. Fincantieri is Italy's largest naval defense contractor and a major global group in the design and construction of merchant and military naval vessels. It is also a world leader in the construction of cruise ships and ferries. The group is Europe's number one shipbuilder and, as of 2005, fourth in terms of shipyard revenues worldwide. Fincantieri is unique in its activities in that it merges the group's combined knowledge base and infrastructure, regarding its various production facilities as one flexible shipyard.

The wide spectrum of information and experience gained in developing systems and construction technologies is exchanged equally between the company's merchant and naval defense divisions. Its military-related activities, most notably the construction of world-class destroyers, frigates, aircraft carriers, and submarines, currently represent 20-25 percent of its revenues. Yet Fincantieri's Chief Executive Officer Giuseppe Bono has announced that the group seeks to strengthen its unique position in the merchant market and to exploit every opportunity in the military field with its so-called 'dual technologies' management. This includes capturing opportunities that emerge in markets well beyond European Union limits, a strategy in which Fincantieri is making strong headway.

The company's track record to date is an impressive curriculum of production, innovation, and financial fortitude. Founded in 1959 as a state financial holding, and becoming an operating company in 1984, Fincantieri brought together a rich heritage of the country's most skilled people and a construction portfolio of over 7,000 technologically advanced vessels. The group's order book for 2006, including major cruise liners for the Carnival Group, four patrol ships for the Iraqi navy, and its first mega-yacht, reached almost \$13 billion, guaranteeing a saturated workload for the next three years. However, in view of competition from Korea, Japan, and China, CEO Bono prefers to look at the wider picture, propelling its course into even more prosperous waters by investing up



CEO Giuseppe Bono sees reinforced European defense objectives

to \$1 billion in modernization over the same period. "We must look not at the next three years, but at the ten years after that," says Bono. Achieving this goal will require capital to be raised from either Fincantieri's shareholder base or the global market, creating an attractive investment opportunity in light of the firm's projected privatization.

Driving research and development and keeping a cap on operational and production costs are two ways of maintaining a lead within the seven seas. Even though the United States may be leagues ahead of Europe in various fields such as stealth applications, Giuseppe Bono believes no technological gap exists when it comes to naval defense. Despite the European market being small in numbers, Bono foresees that "in a future perspective European defense and security will be reinforced and the European Defense Agency will be fully operative, determining common requirements and objectives." This should pave the way, in the longer term, to a structural integration among major players which is the key to achieving new European excellence.

A main indicator of enhanced collaboration within the EU is the Franco-Italian FREMM framework for the construction of European multi-mission frigates. The program calls for a total of 27 ships, 17 for the French navy and 10 for the Italian navy, at a total cost of \$14 billion including equipment and logistic support. At an estimated \$5.3 billion, Italy's frigate program is managed by Orizzonte Sistemi Navali, a Genoa-based joint venture between Fincantieri (51 percent) and Finmeccanica (49 percent). The FREMM program, a cost-effective follow-up to the Horizon class frigates developed by Orizzonte and Armaris, represents the most significant naval defense production run in Europe today, with the first batch of frigates to be delivered in 2011, and all ships completed by 2017. "The continuous exchange of technologies, methods, and construction techniques leads to lower costs, shorter production lead times, and has technological enrichment as a natural consequence, to the benefit of both shipbuilder and tax-payers" concludes Bono.



MIND IS THE FIRST DEFENCE.



High-tech Companies Raise Italian Stakes

The success of Italy's defense sector is a source of inspiration for related companies across Europe. With annual revenues of \$13 billion, and employing some 50,000 people, Italy's world-class companies invest over \$1.7 billion per annum in research and development. The country leads the field in helicopter production and has risen to even higher altitudes by becoming a key contributor to the International Space Station. This elevated status is attributed to the superiority of Italian high-tech solutions, either in their own right or within international alliances. The most influential Italian aerospace and defense manufacturer is the Finmeccanica group, representing 80 percent of the domestic defense sector, but many smaller Italian firms also stand out for their expertise and innovations.

At the heart of this vibrant defense environment is the Secretariat General of Defense / National Armaments Directorate (SGD/NAD), headed by Lieutenant General Gianni Botondi. The SGD/NAD actively pursues possible synergies within the national administrative and industrial system, and courts both foreign governments and companies willing to collaborate on programs of research, development, and production. Italy's Ambassador to the US Giovanni Castellaneta emphasizes that this has made his country's defense industry highly competitive. When it comes to strategic worldwide presence, the most prolific enterprise is Elettronica S.p.A (ELT), which supplies high-tech equipment in use by armed forces in 28 nations on 5 continents. Not only is ELT a leading manufacturer of electronic warfare (EW) equipment, it is also one of the few companies almost exclusively dedicated to this particular field. Since its foundation in 1951, ELT's consistent response to the ever-changing requirements of modern defense has placed the company's product line at the sector's summit.

In the sixth century BC, military strategist Sun Tzu said: "All warfare is based on deception". As 21st century defense equipment becomes increasingly sophisticated and complex, the pursuit of altered perception is a significant priority among the world's land, sea, and air forces. Elettronica's protection portfolio covers the complete spectrum of electronic countermeasures

(ECM), airborne jammers and radar deception systems. Elettronica has seen its sales soar from \$150 million in 2000 to \$337 million in 2005. A phenomenal 47 percent of its orders come from within the EU (excluding Italy), 36 percent are from outside the EU, and 17 percent of orders are domestic.

ELT's President and Managing Director, Enzo Benigni, elaborates the principle that his company must always be one step ahead: the more sophisticated electronic defense becomes, the more innovative its countermeasures must be. "Electronic defense is the only way to counteract an enemy's electromagnetic threat without the need for direct confrontation, both at a tactical and a strategic level." EW suites have been developed for, but not limited to, Tornado and Eurofighter Typhoon jets, NH-90 and EH-101 helicopters, and naval systems for Horizon and FREMM frigates. "Due to the fact that EW must always anticipate and defeat the technological competition of its threats," says Benigni, "newest and traditional requirements represent the driving force towards a continuous and complete innovation, which is always the 'raison d'être' of EW. In our field, excellence is an absolute must, not a nice to have." Besides its Rome HQ, the company has extended its training and support facilities by setting up subdivisions in Germany and the United Arab Emirates.

Hi-tech systems are not limited to electronics alone. Another area in which Italy has shown superiority is carriage and release systems for fixed- and rotary-wing aircraft. Privately owned AEREA S.p.A has been designing, developing, and producing airborne mounting systems, weapons racks, and missile launching rails for 80 years. The company is a case study in flexibility and interoperability, as its presence on various platforms of helicopters and fighter jets permits it to maintain and expand its own position independently from the success or otherwise of an individual aircraft. AEREA President Silvano Mantovani maintains that investing in innovative product design and research, rather than license production, is the key to survival within the defense industry. "On an industrial scale, the European panorama in which 500 to 600 firms market aerospace equipment will experience a notable contraction in the near future. In all probability, it will slim down to no more than 300 concerns." In January, AEREA announced its intention to buy French launching systems manufacturer Alkan from MBDA, in which Finmeccanica has a 25 percent share. Even within Italy, the stakes are getting higher.



Hellenic Defense Faces New Reality

Greece has traditionally been big on defense budgets, but with military spending constituting 4.1 percent of GDP until very recently, the government has needed to cut down fiercely. Now at 2.8 percent, Greece's Minister of National Defense Vangelis Meimarakis plans to whittle spending down to 1 percent of GDP. Although the ministry has allocated \$35 billion over the next 10 years, most of this is likely to be spent on new fighter jet orders, including \$1.99 billion for 30 F-16's, leading the 150 companies active in the Hellenic defense sector to seek out new markets. The Minister's solution is a new law on procurements, establishing the obligatory participation of the national defense industry in new armament programs. "We are converting the domestic defense industry into a development lever of the Hellenic economy," says Meimarakis. "We are convinced that the economy and the development of our country has a lot to expect from the enhancement of the defense industry."

How are Hellenic companies facing up to the new reality? Their reputation for high end products has made Greek defense players a popular partner with international firms. In the case of the F-16's, Hellenic Aerospace Industry (HAI), the largest state-owned aerospace and defense company in Greece, has become the sole manufacturer of key components for Lockheed Martin's fighter jet. "We currently have 67 percent of our contracts signed with international companies," reveals HAI's CEO Tassos Philippakos. He wants to see the company turned into a major exporter for Greece by moving even further afield. "We don't need to capture 10 percent of the global market; we need a fraction of 1 percent in order to have a successful company."

"We are converting the domestic defense industry into a development lever of the Hellenic economy."

Vangelis Meimarakis, Minister of National Defense, Greece

For Europe's defense industry, Philippakos ultimately sees consolidation leaving room for up to four pockets of excellence. "Europe may have to concentrate on certain technologies instead of trying to cover them all. You cannot be effective on all fronts when you have one fifth of the research and development budget of the US." Philippakos's 30 years of experience in the United States with Moody's and Merrill Lynch gives HAI a clear insight into the global market, on which it

is furthering its growth plans.

Fortunately, more and more Greek SME's are connecting to a wider world, among them the private firm Elfon Ltd, an innovative electronics and defense applications cabling producer. Elfon's Managing Director Nicholas Kemos insists "Greek companies should concentrate on becoming sub-systems providers and consistent partners to bigger firms across the globe." Reflecting the company's wiring and harnessing expertise, what Kemos describes as the "neural system within a system", the Managing Director points out that "manufacturing today is a chain of diverse supplier relationships. Any supplier that enters this network must be fully aware of the responsibility undertaken and the ripple effects caused by the deviations from expected performance." This mindset has earned Elfon an Outstanding Supplier Award from Lockheed Martin for its participation in the F-16 program, as well as accolades from major partners in submarine, surface vessel, and missile systems.

"Europe may have to concentrate on certain technologies instead of trying to cover them all. You cannot be effective on all fronts when you have one fifth of the research and development budget of the US."

Tassos Philippakos, CEO of Hellenic Aerospace Industries

The real advantage for SME's lies in their capacity to be flexible. Small, specialized lines of production make medium sized companies the most cost-effective suppliers for custom modifications required by the armed forces. Add to that a longstanding and active experience with naval-based systems and you get SSMART Signaal Hellas, a combined hardware and software solutions firm renowned for its custom-made production and services. Founder and Managing Director Charalambos Becatoros explains that a mid-1990's assignment for a complete modernization of



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sensor systems originally produced by Signaal B.V. for the Hellenic Navy led to a fruitful and productive relationship with Thales Netherlands, SSMART Signaal Hellas' first international partner. The company's portfolio now includes a wide variety of products such as the TACTICOS Combat Management Training System and logistic support for radars, missiles, and combat systems.

"The Greek labor force is highly skilled in special areas, in some cases even outperforming established European countries."

Charalambos Becatoros, Managing Director of SSMART Signaal Hellas

With satisfied and repeat customers at home and abroad, including the German, Polish, and Indonesian Navies, Becatoros looks forward to forging stronger links with the US, the Balkan states, and the Middle East. "We feel the experience gained through already implemented programs gives us the security to knock on other doors. The Greek labor force is highly skilled in special areas, in some cases even outperforming established European countries, and as far as our reputation is concerned, people equate it with quality." The next step for SSMART Signaal Hellas is a deepening of its R&D activity, a move that Becatoros says will take "patience and persistence", not only for his com-

pany, but for any Greek firm serious about competing in the European defense market.

Most Greek defense firms are linked to the non-profit organization SEKPY. Created in 1982, SEKPY now strives to amass valuable transfer of knowledge from the United States by liaising Greek companies with similar sized American firms through which they can reach the big players of the US market. "Greece is a small, dynamic market that US and EU defense companies are competing to get orders for because it is an EU and NATO member with a prestigious defense budget," says Spyros Papageorgacopolous of consultancy firm Comversa. One significant opportunity may arise when the government finalizes its decision on which major fighter jet program to adopt. Lockheed Martin's regional Vice President Denny Plessas hopes Greece will buy into the 5th Generation Joint Strike Fighter F-35, joining other European partner countries and Turkey. "As we look out into the future, it will be important to see those areas where each nation or each company contributes its best capabilities, so we don't duplicate unnecessary investments, defeating the purpose of creating economies of scale."

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