

# MARITIME DEFENCE INVESTMENT POLICY OF THE REPUBLIC OF BULGARIA

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**Abstract:** Taking into consideration Bulgaria's interests and intentions stipulated in the National Security Strategy, the Black Sea is seen as a main sphere of the country's foreign, security and defence policies. So far, official documents do not seem to place a priority on modernising the Bulgarian Navy. The author, however, reasons that by 2020 Bulgaria should have small, but technologically advanced Navy, capable of defending the interests of Bulgaria and its Western allies in the Black Sea region. After examining available options and approximate costs, the paper suggests that the country embarks on a modernisation programme packaging the procurement of main platforms, thus getting negotiation leverage and seeking off-sets through direct industrial investments.

**Keywords:** Defence policy, maritime sovereignty, naval capabilities, rearmament, Black Sea security, regional security, offset.

## Introduction: Analysis of the General Situation

The White Paper on Defence<sup>1</sup> and the Plan for Development of the Armed Forces<sup>2</sup> are an expression of what is in fact a reactive, short-term action of the Ministry of Defence (MOD) in response to pressures of the ongoing financial crisis.<sup>3</sup> Taking into consideration the circumstances this is justifiable, but it does not set clear long-term priorities.

According to statements of the Minister of Defence<sup>4</sup> and what the White Paper on Defence and the Plan for Development stipulate there are three main priorities to defence investment projects: new multipurpose aircraft, infantry fighting vehicles (IFV) and new anti-ship missile systems. The implementation of these projects is not to start simultaneously and it is going to be of different intensity. As to the multipurpose aircraft project, the Plan for Development (p.19) stipulates that by 2014 the Air Forces will acquire up to 20 main fighter aircraft of a new type. No deadline for concluding the deal has been set. The implementation of the project for procurement of new IFVs is probably going to start in the near future—within one to two years—since the Plan for Development (p. 30) stipulates that by 2014 the Armed Forces should be capable

of sustaining a contribution to multinational joint combat operations with one battalion. The documents do not provide information when the overall rearmament with IFVs has to be completed. On this background, the Navy modernization projects seem most predictable. In the Plan for Development specific time parameters for their completion have been set: 2015 for the construction of deck helipads and 2016 for the purchase of new anti-ship missile systems, both for existing frigates.<sup>5</sup> The relatively low costs (as compared to other projects) and the urgency of delivery determine the priority of this project.

Taking into consideration Bulgarian interests and intentions (also confirmed in the National Security Strategy), the Black Sea is seen as a main sphere of Bulgarian foreign and security policy. This is to confirm that putting Bulgarian Navy relatively into the background in relation to the policy of the current government is only a temporary measure.

Due both to its own interests and conditions beyond its national borders, Bulgaria has to accept a relatively ambitious role in the Black Sea region. While this role emphasises diplomatic and foreign economic activities, it certainly requires a relevant military potential.

### **Armed Forces Capabilities**

The assumptions about the nature of using the Armed Forces of Bulgaria in the foreseeable future are based on views firmly established throughout recent years that have become part of the White Paper on Defence and the Armed Forces of the Republic of Bulgaria and in the National Security Strategy. They can be summarized as follows:

- The country does not face a threat of a military conflict with another country;
- The defence focus is shifted to collective security within the framework of NATO;
- National interests are to be defended and threats are to be countered outside national boundaries;
- Unconventional threats to security are ever more substantial and pose a serious challenge to contemporary Armed Forces.

These assumptions form the basis for determining the three missions of the Armed Forces: *Defence*, *Support to international peace and security* and *Contribution to national security in peacetime*.

Such broad definitions both of the nature of future Armed Forces operations and of the main defence missions can be applied to countries such as the Czech Republic or Belgium which are in a situation very different from that of Bulgaria. Bulgaria has

specific importance in relation to its geographical location, namely with its key role in the Adriatic-Caspian region. This is a region characterized by both its serious role for the normal functioning of the world economy and with its high level of instability and unpredictability. The Black Sea is at the centre of this region:

Oil and gas from Central Asia and the Middle East move along Black Sea shipping lanes and pipelines to Europe and other points west. These same shipping lanes are used for the traffic in narcotics, persons (including terrorists), conventional weapons, and WMD components. The Black Sea region can be a launching platform for military, reconstruction, and stabilization operations in Afghanistan, Iraq, and possibly Iran, as well as for the protection of energy shipping lanes between the Caspian region and Western markets. It is also Europe's new southeastern border. Thus, both the EU and the United States have strong interests in safeguarding the movement of some goods, preventing the movement of others, and maintaining a presence in the Black Sea region.<sup>6</sup>

In the foreseeable future in the Black Sea region national and common security is going to be faced equally with new and traditional threats and the latter must in no case be overlooked. Just as it was shown in 2008 the Western policy in the region should be based not only on diplomacy and economic expansion but also on the presence of a sufficient military potential. In 2008 a country in friendly relations with the West and Bulgaria was left to cope with the Russian intervention on its own.<sup>7</sup> NATO and the EU lacked not only will but also military capability for timely reaction with conventional forces.

Bulgaria and Romania are the two Black Sea states—members of both NATO and the EU—that are going to have considerable role in the establishment and support of this military potential. Turkey, despite being a NATO member, maintains specific relations with Moscow and in quite a few respects its position is identical to the Russian position. The direct participation of ships of Western countries in Black Sea operations collides both with objective logistics problems and with the stipulations of the Montreux Convention banning foreign military ships from staying in the Black Sea for more than three weeks. Turkey and Russia are unanimous in their unwillingness for these clauses of the Convention to be amended. Bulgaria and Romania's role could not counterbalance Russia. Their goal would be to break Russian and Turkish monopoly in terms of military potential in the Black Sea, not allowing the region to be treated as the two regional forces' backyard, and to open the Black Sea region to the Western world.

Combining national security interests with the Euro-Atlantic policy for the Black Sea region allows Bulgaria and Romania not only to guarantee the security of their waters and their economic interests but also to play a more significant role: to contribute to the stability and development of the whole region and its accession (to a degree) to

the western military, political and economic area. In order to perform this role both countries have to develop their maritime capabilities in terms of countering both asymmetric and conventional threats. Since the security and stability of the region are not only of interest to Bulgaria and Romania but also to the United States and the European Union, both countries could be able to attract foreign financing for modernization of their navies. Technological rearmament is to be implemented in the period by 2020-2025 since the current assumptions about the security environment can hold true within the following 10-15 years at best.

## **Defence Investment Policy**

In view of Bulgaria's role for the common Euro-Atlantic security and the investment portion of its defence expenditure, the modernization of the Bulgarian Navy is not to be based solely on current conditions of state finances. A rational policy should not postpone modernisation projects "till better times." On the contrary, the reasonable approach requires that state expenditures on defence investments are used as one of the levers for introducing positive development in the economy by attracting foreign investments and advanced technologies. Hence, and in compliance with military requirements, a significant investment programme has to be launched before 2015 so that by 2025 the Bulgarian Navy is capable and fully interoperable with the navies of other NATO nations.

### ***Prospects for Navy Rearmament***

The study of rearmament possibilities for the Bulgarian Navy is based on several main assumptions:

- The Navy has to be capable of conducting conventional and unconventional combat activities focusing on the Black Sea region but also to be able to participate in alliance or coalition operations in remote geographical regions;
- The Navy has to have capabilities under and above water as well as in the air;
- After their modernization, the Wielingen class frigates can remain in use by 2025. The legacy warships of Soviet design—submarines, corvettes and frigates—will be gradually decommissioned and will be replaced by new Western models. By 2025 the Navy will have at least six new underwater and surface vessels, which will allow to decommission the Wielingen class frigates;

- New military equipment will be procured in the process of rearmament, preferably designed in the 1990s at the latest. It is strongly recommended that a portion of the ships are built in Bulgarian shipyards;
- Potential rearmament options with regard to surface ships include missile boats, corvettes and frigates which are to be used in operations (conventional and unconventional) in littoral waters, rather than in the open ocean. The rearmament can include more than one class of ships. It is preferable that the ships have capabilities to counter underwater, surface and air threats;
- Potential rearmament options with regard to underwater ships include diesel-electric submarines with displacement of 1000-2000 t.
- Both European and North American prime contractors will be considered.

As to surface ships the highest interest is in *Hamina* missile boats (Finland, 250 t), *Visby* corvettes (Sweden, 640 t), *Nansen* frigates (Spain/Norway, 5 130 t), *MEKO* frigates<sup>8</sup> for export (Germany, 1600 t /A-100/ – 3500 t /A-200/) and *Gowind* corvettes for export (France, ~ 2000t).<sup>9</sup> Data as to the price of the respective classes of surface ships is presented in Table 1. In the table there is also data about deals that started or have been finalised after 2000.

Table 1. Data about the price of deals for surface ships.

	Data 1	Data 2	Data 3	Data 4	Unit price
<i>Nansen</i> (5 130t)	\$1,5 - 2,5 bil. for 5 ships <sup>10</sup>	\$2,4 bil. <sup>11</sup>	...	...	\$480 mil. (BGN 664 mil.)
<i>Hamina</i> <sup>12</sup> (250t)	\$100 mil. per ship <sup>13</sup>	\$ 24 mil. per ship <sup>14</sup>	...	...	...
<i>Visby</i> (640t)	\$184 mil. per ship <sup>15,16</sup>	...	...	...	\$271 mil. (BGN 375 mil.) <sup>17</sup>
<i>MEKO-100</i> (1600t)	\$2bil. for 6 ships <sup>18</sup>	...	...	...	\$330 mil. (BGN 456 mil.)
<i>MEKO-200</i> <sup>19</sup> (3500t)	\$525 mil. for 2 ships <sup>20</sup>	\$2,7 bil. for 8 ships <sup>21</sup>	EUR 924 mil. (\$1,3 bil.) for 4 ships <sup>22</sup>	\$1,4 bil. for 4 ships <sup>23</sup>	\$260 mil. – 350 mil. (BGN 360- 485 mil.)
<i>Gowind</i> (~2000t)	EUR 900 mil. (\$1.25 bil.) for 4 ships <sup>24</sup>	EUR 498 mil. (\$717mil.) for 2 ships <sup>25</sup>	...	...	\$313mil. - \$358 mil. (BGN 443 – 486 mil.)

In relation to underwater ships (displacement of 1200-1800t) there is most interest in *Type 209* (Germany), *Type 212* (Germany),<sup>26</sup> *Type 214* (Germany), *Scorpene* (France/ Spain), *Agosta* (France), *Gotland* (Sweden). Data as to the price of the respective classes of surface ships is presented in *Table 2*. In the table there is also data about deals that have started or ended after the year 2000.

Taking into consideration the current deals for supply of main types of warships that are being implemented, Bulgaria's choice is rather limited. It is in fact limited to corvettes or small frigates (as to surface ships) and includes the Swedish *Visby*, the German *MEKO* (A-100 and A-200) and the French *Gowind*. In terms of their design and capabilities the German *Braunschweig* corvettes belong rather to the 1990s than to the second or third decade of the Twenty first century. The *Hamina* missile boats are an extremely appropriate solution both in terms of their capabilities and their price. They, however, have one main disadvantage – range. A vessel with combat radius of up to 250 nm (total range of 500 nm) is sufficient for a country such as Finland as it uses to the maximum the rugged terrain along the Baltic Sea (the Gulf of Finland), but in the Black Sea it will be of limited use, mainly for coast guard operations.

Table 2. Price data for underwater ships.

	Data 1	Data 2	Data 3	Data 4	Unit price
<i>Gotland</i> (1490t)	\$365 mil. <sup>27</sup> per ship	...	...	...	\$365 mil. (BGN 505 mil.)
<i>Type</i> <i>209</i> (1600t) <sup>28</sup>	\$550 mil. <sup>29</sup> per ship	EUR 748 mil. (\$1,05 bil.) for 3 ships <sup>30</sup>	...	...	\$350 – 550 mil. (BGN 485 – 760 mil.)
<i>Type</i> <i>212</i> (1830t)	\$525mil. <sup>31</sup> per ship	...	...	...	\$525mil. (BGN 713 mil.)
<i>Type</i> <i>214</i> (1860t)	EUR 1bil. (\$1.36) for 3 ships <sup>32</sup>	EUR 846 mil. (\$1,2 bil.) for 2 ships <sup>33</sup>	\$1,1 bil. for 3 ships <sup>34</sup>	EUR 2 bil. (\$2,6b) for 6 ships <sup>35</sup>	\$370 – 600 mil. (BGN 497 – 830 mil.)
<i>Scorpene</i> (1590t)	\$850 mil. <sup>36</sup> per ship	...	...	...	\$850mil. (BGN 1,15 bil.)
<i>Agosta</i> (1760t)	\$750 mil. for 3 ships <sup>37</sup>	...	...	...	\$250 mil. (BGN 340 mil.)

The relevant supply of underwater vessels is even more limited; in fact it includes the German *U-214* and the Swedish *Gotland*. As it has already been stated *U-212* are not offered at the international market and *U-209* have in fact been replaced by *U-214*. The French proposals *Scorpene* and *Agosta* have two disadvantages – the former are too expensive although probably they have better capabilities while operating in open oceans; the latter, just like *U-209*, are upgraded models of vessels designed in the 1970s.

The near-term purchase of three Visby class corvettes and one Gotland class submarine would cost approximately \$ 1178 million (BGN 1 630 million; 2010 prices). Such ‘rapid’ rearmament option is definitely more favourable and realistic in comparison with the possible purchase of Gowind corvettes, both because of its lower total price and because of the option for acquiring a contemporary underwater vessel. Four Visby class corvettes and 2 Gotland class submarines, which would be the reasonable option for rearmament of the Bulgarian Navy, would cost approximately \$ 1815 million (BGN 2510 million) payable by 2025. The purchasing of more expensive (and bigger) ships from Germany and France—surface and underwater—without going beyond the boundaries reasonable for the Black Sea could make the deal at least twice more expensive. The selection of Visby and Gotland classes is based on the opinion that these vessels correspond to the requirements, stemming from Bulgarian interests in the Black Sea region and are at a reasonable price. The alternatives for new warships (underwater and surface) have three main disadvantages – they are based on relatively old platforms (including second-hand), they are too big (for the size of the Black Sea) or they are too expensive. The acquisition of a ‘package’ of underwater and surface ships by one producer (e.g. Kokonuts, Sweden which is owned by ThyssenKrupp Marine, Germany) at a cost of BGN 2,15 –2,5 billion would allow for negotiating much better conditions in terms of production, maintenance and investments in the Bulgarian defence industrial base. In such case Bulgaria could rely on preferential conditions due to the scope of its order.

Bulgaria should not make the mistake to focus solely on the price for purchasing the main types of warships. It should be taken into consideration that although the Swedish vessels are among the most economical ones, they need more funds for operations and maintenance as compared to the present Russian vessels of the Bulgarian Navy. The purchase of Wielingen frigates has once again shown that the Bulgarian authorities responsible for defence procurement focus on the upfront cost and overlook the expenditures to be made for operations and maintenance. Moreover, the calculation of “the overall modernization expenditures” did not consider the need for acquiring auxiliary ships – minehunters, mine-laying vessels or support ships. The maximum use of the capacity of the main types of warships, the capability of the Bulgarian Navy to operate effectively in the Black Sea region as well as to contribute to remote

NATO missions will depend to a large extent on the quantity and quality of the auxiliary ships.

The alternative offered her is certainly not the only one available. It, however, seems the most appropriate given Bulgaria's policy goals and abilities. If by the time of launching a programme for rearmament of the Bulgarian Navy (e.g. 2014-2016) other reasonable alternatives appear, they are also to be considered.

## **Conclusion: Maritime Defence Investment Policy of the Republic of Bulgaria**

The relative low priority of the investments in the Bulgarian Navy in the latest Modernization Plan of the Armed Forces will be of a temporary nature. Bulgaria is situated in a region key to the security and stability of Europe – the Adriatic-Caspian region centred on the Black Sea. Both Bulgarian interests and the policies of the United States and the European Union imply a Black Sea region that is secure and stable. This desired state however cannot be achieved without maintaining a sufficient military potential. It would be necessary both for countering new, unconventional threats as well as to respond to traditional conventional threats – a fact confirmed by Russia's actions against Georgia in 2008. Bulgaria and Romania—members of both NATO and the EU—are the countries that need to become main pillars of the Western policy on the Black Sea region. This has a major impact on the development of the military capabilities of these two countries as part of the overall policy of Western European states and the United States in the region, that in turn brings along expectations for a shared financial burden.

Building-up the necessary Bulgarian potential for sea operations and more specifically for operations in the Black Sea region requires of a new stage of significant modernization of the Bulgarian Navy immediately after achieving the short-term modernization goals by 2015. In the period 2015-2025 Bulgaria will have to make an overall technological rearmament of its Navy in order to be able to operate efficiently in the Black Sea region.

The rearmament options of the Bulgarian Navy are not infinite. The acquisition of new surface and underwater vessels would in fact be based on four or five realistic alternatives. Turning to Sweden (in fact to ThyssenKrupp, Germany) seems most reasonable. Together their Visby corvettes and Gotland submarines ensure the acquisition of the necessary capabilities of the Armed Forces and provide opportunities for negotiating a reasonable price (a sum total of BGN 2,5 billion for four corvettes and two submarines by 2015). Getting a package deal for surface and underwater vessels would allow also to negotiate more favourable offset conditions thus using defence modernisation to bring direct investments in the Bulgarian economy.

Finally, by the time Bulgaria decides to launch a programme for naval modernisation (which should happen before 2015) potential suppliers might be able to offer more competitive deals.

## Notes:

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- <sup>1</sup> *White Paper on Defence and the Armed Forces of the Republic of Bulgaria*, adopted by a Decision of the National Assembly, 28 October 2010, <[http://rdsc.md.government.bg/BG/About/Akademi/20101130\\_WP\\_BG.pdf](http://rdsc.md.government.bg/BG/About/Akademi/20101130_WP_BG.pdf)>.
- <sup>2</sup> Plan for the Development of the Armed Forces of the Republic of Bulgaria, adopted by Decree no. 333 of the Council of Ministers. 29 December 2010, <[www.strategy.bg/StrategicDocuments/View.aspx?lang=bg-BG&Id=669](http://www.strategy.bg/StrategicDocuments/View.aspx?lang=bg-BG&Id=669)>.
- <sup>3</sup> For a general treatment of Bulgaria's defence policy and its possible modalities see Todor Tagarev and Valeri Ratchev, *Bulgarian Defence Policy and Force Development 2018* (Sofia: Military Publishing House, 2008), in Bulgarian; Todor Tagarev and Lidia Velkova, "Bulgaria's Defence Policy and Force Size from a Comparative Macro Perspective," *Information & Security: An International Journal* 23:1 (2009): 115-128.
- <sup>4</sup> Report of the Minister of Defence delivered at a conference on *Intelligent Defence: National Defence Policy and Investments in the Defence Sector in the Second Decade of the 21<sup>st</sup> Century*, organized by Association of the Officers in the Reserve Atlantic, Sofia, 29 March 2011.
- <sup>5</sup> Plan for the Development of the Armed Forces of the Republic of Bulgaria, p. 30.
- <sup>6</sup> Ariel Cohen and Conway Irwin, "U.S. Strategy in the Black Sea Region," *Heritage Back-grounders* no. 1990 (The Heritage Foundation, 13 December 2006), <[www.heritage.org/Research/Reports/2006/12/US-Strategy-in-the-Black-Sea-Region](http://www.heritage.org/Research/Reports/2006/12/US-Strategy-in-the-Black-Sea-Region)>.
- <sup>7</sup> See for example Svante E. Cornell and S. Frederick Starr, eds., *The Guns of August 2008: Russia's War in Georgia* (New York, NY: M.E. Sharpe, 2009).
- <sup>8</sup> According to other sources the ships are classified as corvettes, <<http://www.naval-technology.com/projects/meke>>.
- <sup>9</sup> The following can be added to the list: frigates La Fayette (France), De Zeven Provinciën (the Netherlands), SIGMA (the Netherlands) and the Braunschweig corvettes (Germany) that have several main disadvantages – too high price, too big displacement and relatively old concepts.
- <sup>10</sup> Part of a deal included the construction of two ships in Norway. The deal was signed in 2000 and ships were delivered in 2006-2009. Stockholm Peace Research Institute (SIPRI) <[http://armstrade.sipri.org/armstrade/page/trade\\_register.php](http://armstrade.sipri.org/armstrade/page/trade_register.php)>.
- <sup>11</sup> The price of the deal includes all the necessary weapon, sensory and support systems. The deal was criticized because of doubts that the Spanish producer had offered a low price at the expense of working with inexperienced sub-contractors, hired on short-term contracts. Criticism has been voiced also in regard to the specialization of the ship in countering submarines, since it is believed to be an echo of the Cold War. At the same time it is pointed out that the threat from Russian submarines to the maritime communications and energy security of Norway should not be overlooked. One of the main problems relates to exploita-

tion costs – there are doubts that Norway could keep all five vessels operational simultaneously, <<http://www.defenseindustrydaily.com/norways-new-nansen-class-frigates-capabilities-and-controversies-02329>>.

<sup>12</sup> The small range of the ship (500nm) is its disadvantage, which makes it suitable almost exclusively for the defence of own waters. The distance from Bulgaria to Georgia is approximately 660 nm.

<sup>13</sup> Not confirmed – see <http://newwars.wordpress.com/warship-costs>.

<sup>14</sup> Including only the hull without additional equipment; see [http://findarticles.com/p/articles/mi\\_qa3738/is\\_200402/ai\\_n9369095](http://findarticles.com/p/articles/mi_qa3738/is_200402/ai_n9369095).

<sup>15</sup> The author of the article doubts how hard the hulls of composite materials are in ocean conditions. An opinion is quoted according to which vessels below 100 m (Visby is 73 m long) cannot withstand an attack by a contemporary anti-ship missile, <<http://news.bbc.co.uk/2/hi/technology/3724219.stm>>.

<sup>16</sup> In the quoted article it is pointed out that after the beginning of the Visby project another \$ 284 million have been allocated for additional equipment and another \$ 150 million are to be added for anti-aircraft missiles (which are not included in the main armaments package). It is also stated that due to the small size of the vessel an anti-aircraft missile system can be added at the expense of a hangar for the deck helicopter. This does not mean that there cannot be a helicopter but it breaks the stealth profile of Visby – one of its main advantages. The additional costs (total \$ 435 million) are for all five Visby corvettes of the Swiss Navy, <[www.defenseindustrydaily.com/umkhonto-missiles-to-equip-visby-corvettes-03253](http://www.defenseindustrydaily.com/umkhonto-missiles-to-equip-visby-corvettes-03253)>.

<sup>17</sup> The amount is based on the stipulated unit prices of the only relatively credible open source (the Air Force) to which a proportionate part of additional expenses has been added.

<sup>18</sup> According to SIPRI, the order was from Malaysia, the deal was concluded in 1999 and the delivery was made in the period 2006-2010. The offset includes the production of at least 30 percent of the parts and the assembling of at least four corvettes in Malaysia.

<sup>19</sup> Those from the Valour model (South Africa) meet the requirements towards contemporary ships. The models for Turkey and Australia correspond with the concepts for the 1990s.

<sup>20</sup> According to SIPRI, the order was from Turkey. The deal was concluded in 1994 and the delivery was made in the period 1998-2000. One of the frigates was produced in Turkey. Model MEKO A-200T2.

<sup>21</sup> According to SIPRI, the order was from Australia. The deal was concluded in 1989 and the delivery was made in the period 1996-2006. Model MEKO A-200ANZ.

<sup>22</sup> According to SIPRI, the order was from South Africa, the deal was concluded in 1999 and the delivery was made in the period 2006-2007. The offset amounts to \$ 3,2 billion. Model MEKO A-200 Valour.

<sup>23</sup> The source points out ZAR 9,65 billion (South African rand) which (according to current exchange rates) amounts to \$1,4 billion, <[http://www.defencweb.co.za/index.php?option=com\\_content&task=view&id=437&Itemid=363](http://www.defencweb.co.za/index.php?option=com_content&task=view&id=437&Itemid=363)>.

<sup>24</sup> See <http://www.defenseindustrydaily.com/bulgaria-orders-4-gowind-200-frigates-from-dcns-03951>.

<sup>25</sup> *Report on the Status of Defence and the Armed Forces 2009*, Appendix 3, p. 8.

<sup>26</sup> In sources such as *naval-technology.com* the class of the new German submarines is denoted as Type 212/214 and their similar characteristics are pointed out. It is underlined that type U-212 is not meant for export. They are commissioned only in Germany and Italy once the two countries developed the vessels together. The opposite is the case with U-214 for which

there are numerous export deals under way but they are not commissioned in Germany and Italy. This leads us to conclude that U-214 was developed as an export version of U-212.

<sup>27</sup> See [www.usni.org/magazines/proceedings/2010-06/right-submarine-lurking-littorals](http://www.usni.org/magazines/proceedings/2010-06/right-submarine-lurking-littorals).

<sup>28</sup> U-209 is a class that meets the contemporary requirements for underwater vessels but on the international market it is being slowly displaced by the U-214 modification. The last deals were concluded in 2000 with South Africa when the deal addressed an additionally modernized version. The latest deals with Greece and Turkey are for U-214; what also makes an impression is the fact that Greece gave up on some of the old orders for U-209 in favour of U-214.

<sup>29</sup> See [www.usni.org/magazines/proceedings/2010-06/right-submarine-lurking-littorals](http://www.usni.org/magazines/proceedings/2010-06/right-submarine-lurking-littorals).

<sup>30</sup> According to SIPRI, the order was from South Africa, the deal was made in 2000 and the delivery was made in 2005-2008.

<sup>31</sup> See [www.geopowers.com/Machte/Deutschland/doc\\_ger/BwPlan\\_2007.pdf](http://www.geopowers.com/Machte/Deutschland/doc_ger/BwPlan_2007.pdf).

<sup>32</sup> See <http://www.defenseindustrydaily.com/Report-German-Submarine-Deal-With-Pakistan-on-Hold-05432>.

<sup>33</sup> According to SIPRI, the order was from Portugal, the deal was made in 2004 and the delivery was made in 2010.

<sup>34</sup> According to SIPRI, the order was from South Korea, the deal was made in 2000 and the delivery was made in 2007-2009.

<sup>35</sup> According to SIPRI, the order was from Turkey, the deal was made in 2009. The delivery is scheduled for 2015-2020.

<sup>36</sup> There are substantial discrepancies in SIPRI data and the most credible data is related namely to the deal with India to which the materials pointed out are dedicated. <<http://www.defenseindustrydaily.com/india-to-sign-multibillion-dollar-scorpene-sub-contract-updated-01194/>; <http://economictimes.indiatimes.com/articleshow/6297145.cms>>.

<sup>37</sup> According to SIPRI, the order was for Pakistan, the deal was made in 1994 and the delivery was made in 1999-2003 to the amount of \$ 750 million. Another \$ 200 million for the modernization of Pakistan's shipyards are to be added. One of the submarines was produced in Pakistan.

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