Abstract:
The security environment development along with the internal political and social economic aspects directly affect the armed forces building process all around the world. This paper analyses the trends of upgrade in the Armed Forces of Belgium as a country comparable to the Czech Republic through the reform process, specialisation options outline and Belgian Army modernisation.

***

Introduction
The modifications made in the security policy issues have consequently called out essential reforms in building, structure and armament of superpowers and other countries. This approach takes an interesting example in Belgium that, in the early 90s, has started its review process of armed forces building manner and taken the corresponding policy of armament in accordance with its strategic goals and ambition assessment.

The initial general outline was quickly specified, most of all for meeting the political requirements relative to the elections in 1995 and for necessary limitation on the defence expenses so that the country be able to follow the Maastricht criteria.

In January 1995, the Belgian Minister of Defence announced that all conscripts would be sent home as of 1 April. The transition from conscript to professional army took the period of 2 months. There were three principles of professionalisation that provided the Belgian general staff with a framework of the new armed forces structure considerations:

- Constant defence expenses (BFr 98 bill, i.e. approximately CZK 85 bill);
- As fast implementation as possible;
- Preservation of Belgium ability to comply with all military commitments.
DEFENCE AND STRATEGY

The Belgian defence policy’s main goal was a fast reduction of the armed forces personnel. Due to reduced natural decrement of the armed forces personnel resulting from changed age structure the reduction plan needed systematic modifications during reform implementation.

Budget became the most burning issue. The increased personnel cost in consequence of professionalisation and constant status of the total defence budget together with maintained permanent operating costs caused reduced budget investment batch. Thanks to extra budgetary sources, additionally allocated by the government, Belgium managed to reform its military within 4 years of ambitious reform plan under consideration so that be fully operational as of 1.1.1999. However, the Belgian armed forces reform has not finished on that date.

Present day Belgian Security Policy

In May 2000 the Belgian government passed the document “Plan stratégique pour la modernisation de l’armée belge 2000—2015” (Strategic plan of Belgian military modernization 2000—2015) envisaging a new concept of armed forces development, modernization and orientation on six operational capabilities and two capabilities of military strategic support.

The operational capabilities were defined as follows:
1. Transformation of existing mechanised forces into units of new type deployable in multinational operations, such as peace-keeping operations;
2. Conversion of the existing airborne units to infantry units for rapid deployment within airborne commands equipped with both transport and combat helicopters;
3. Optimisation of Tactical Air Force capacity presuming their higher contribution within the North Atlantic Alliance in particular by multipurpose aircraft intended for airspace defence, anti-surface target operations or tactical reconnaissance;
4. Generation of transport capacity to comprise transport aircraft for the Air Force and transport ship for the Navy;
5. Modernization of mine clearance assets;
6. Transformation of anti-submarine warfare assets to multipurpose escort naval units.

Military strategic support capacities:
1. Generation of strategic reconnaissance;
2. Modernization of command, control and information assets.

The new concept should be able to provide the Belgian Armed Forces with more ability in new security environment for their adequate contribution to the North Atlantic Alliance or European Union operations and projects.

The primary missions of the Belgian Armed Forces in future remain:
• Provision for national territorial integrity and sovereignty,
BELGIAN ARMED FORCES: TRENDS IN DEVELOPMENT

- Defence of Belgian national interests,
- Prevention of conflicts,
- Supporting democracy and protection of human rights.

Belgian Armed Forces

Belgian Armed forces are now fully professional having 41,750 personnel out of which 2,570 are female.

Concerning structure, Belgian Armed Forces are composed of (see Fig.1, Tabs.1, 2):

- Land Component,
- Air Component,
- Maritime Component,
- Medical Component.

The defence expenditures trends are shown in Tabs. 3 and 4.

Table 1: Armed Forces Manpower in 2002\(^1\)

<table>
<thead>
<tr>
<th></th>
<th>Total</th>
<th>Land</th>
<th>Air</th>
<th>Mar</th>
<th>Medical Com</th>
</tr>
</thead>
<tbody>
<tr>
<td>2002</td>
<td>41,750</td>
<td>26,400</td>
<td>11,500</td>
<td>2,600</td>
<td>1,250</td>
</tr>
<tr>
<td>Forecast 2015</td>
<td>38,500</td>
<td>TBD</td>
<td>TBD</td>
<td>TBD</td>
<td>1,150</td>
</tr>
</tbody>
</table>

Table 2: Reserve Manpower in 2000\(^2\)

<table>
<thead>
<tr>
<th></th>
<th>Total</th>
<th>Land</th>
<th>Air</th>
<th>Mar</th>
<th>Medical Com</th>
</tr>
</thead>
<tbody>
<tr>
<td>2002</td>
<td>152,050</td>
<td>105,200</td>
<td>20,700</td>
<td>6,250</td>
<td>19,900</td>
</tr>
<tr>
<td>Forecast 2015</td>
<td>62,000</td>
<td>TBD</td>
<td>TBD</td>
<td>TBD</td>
<td>TBD</td>
</tr>
</tbody>
</table>

Table 3: Defence expenditures (in 2000)\(^3\)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>10.3</td>
<td>231.0</td>
<td>3.8</td>
<td>22,427.2</td>
<td>41.75</td>
<td>3,677</td>
<td>1.5</td>
<td>93,562.3</td>
<td>4.1</td>
</tr>
</tbody>
</table>

Table 4: Defence Expenditures Trend over 1990—2000\(^4\)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>[%] of GNP</td>
<td>2.4</td>
<td>2.3</td>
<td>1.8</td>
<td>1.7</td>
<td>1.7</td>
<td>1.6</td>
<td>1.6</td>
<td>1.5</td>
<td>1.5</td>
<td>1.5</td>
<td>1.5</td>
</tr>
</tbody>
</table>
Belgian Royal Armed Forces Command Structure

**Fig 1: Belgian Royal Armed Forces Command Structure**

**Land Component**

In addition to normal tasks, the Army should be immediately able to detach 6,000 personnel, if necessary, to provide for:

- Building a unit at the level of independent brigade group deployable within one year and its rotation,
- Forming a unit at the level of independent brigade group intended for missions abroad of short-term nature,
- Building a unit at the level of battalion with reinforcement troops (battle group) for unlimited time engagement,
- Available combat and/or support units, if necessary, in favour of multinational forces at the level of division or army corps.

The land component should be able to provide units necessary for supporting a brigade intended for deployment in an operation abroad even if a unit of the above mentioned has already been deployed. The mentioned units should comprise airborne or mechanised land sub-components. Table 5 lists selected weapon systems and their numbers at the land component.
The Belgian Air Component’s primary mission is to defend airspace of the country and of the North Atlantic allies. The component should be able to participate in national defence, attack ground targets and carry out air reconnaissance under any conditions in peace as well as in high intensity conflict. In addition, it should be able to provide for transport and deployment of the airmobile expedition unit at the level of battalion in the first phase of missions abroad.

The air component should be also able to provide capacity for contribution to two independently conducted operations in different regions, made of two F-16 A/B multipurpose combat aircraft units, in maximum total number of 36 machines and 1250 personnel for the period not exceeding four months. For a sustained deployment, the number of aircraft and personnel would require reduced number of aircraft and personnel due to necessary rotation of both systems and personnel.

The Belgian Air Component consists of Command COMOPSAIR, one wing to provide training, two tactical aircraft wings, one transport aviation wing, air group intended for Search and Rescue operations and supporting units. The main technology assets are F-16 A/B multipurpose combat aircraft, C-130 Hercules transport aircraft. In addition to the further listed combat aircraft Belgian air force holds in its reserve 32 aircraft F-16 A/B, 12 Mirage 5BA, 12 Mirage 5BR, 3 Mirage 5BD that are stowed preserved. Table 6 lists the types and numbers of air component weapon/technology.

Table 5: Weapon/technology systems of Belgian Land Component

<table>
<thead>
<tr>
<th>Weapon system</th>
<th>Pieces</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tanks (Leopard 1 A1/A5)</td>
<td>155</td>
</tr>
<tr>
<td>Reconnaissance armoured vehicles “Scimitar”</td>
<td>141</td>
</tr>
<tr>
<td>Infantry Armoured vehicle (various types)</td>
<td>770</td>
</tr>
<tr>
<td>Artillery systems 105 mm</td>
<td>38</td>
</tr>
<tr>
<td>Artillery systems 155 mm</td>
<td>112</td>
</tr>
<tr>
<td>Mortars 81 mm</td>
<td>100</td>
</tr>
<tr>
<td>Mortars 107 mm</td>
<td>90</td>
</tr>
<tr>
<td>Antitank missiles “Milan”</td>
<td>420</td>
</tr>
<tr>
<td>AD system “Mistral”</td>
<td>118</td>
</tr>
<tr>
<td>Aircraft BN-2A “Islander”</td>
<td>12</td>
</tr>
<tr>
<td>Attack helicopters A-109 BA</td>
<td>28</td>
</tr>
</tbody>
</table>

Air Component

The Belgian Air Component’s primary mission is to defend airspace of the country and of the North Atlantic allies. The component should be able to participate in national defence, attack ground targets and carry out air reconnaissance under any conditions in peace as well as in high intensity conflict. In addition, it should be able to provide for transport and deployment of the airmobile expedition unit at the level of battalion in the first phase of missions abroad.

The air component should be also able to provide capacity for contribution to two independently conducted operations in different regions, made of two F-16 A/B multipurpose combat aircraft units, in maximum total number of 36 machines and 1250 personnel for the period not exceeding four months. For a sustained deployment, the number of aircraft and personnel would require reduced number of aircraft and personnel due to necessary rotation of both systems and personnel.

The Belgian Air Component consists of Command COMOPSAIR, one wing to provide training, two tactical aircraft wings, one transport aviation wing, air group intended for Search and Rescue operations and supporting units. The main technology assets are F-16 A/B multipurpose combat aircraft, C-130 Hercules transport aircraft. In addition to the further listed combat aircraft Belgian air force holds in its reserve 32 aircraft F-16 A/B, 12 Mirage 5BA, 12 Mirage 5BR, 3 Mirage 5BD that are stowed preserved. Table 6 lists the types and numbers of air component weapon/technology.
Table 6: Weapon/technology systems of Belgian Air Component

<table>
<thead>
<tr>
<th>Weapon/technology system</th>
<th>Pieces</th>
</tr>
</thead>
<tbody>
<tr>
<td>F-16 A/B combat aircraft</td>
<td>90</td>
</tr>
<tr>
<td>C-130 “Hercules” transport aircraft</td>
<td>11</td>
</tr>
<tr>
<td>Airbus A-310-200 transport aircraft</td>
<td>2</td>
</tr>
<tr>
<td>HS-748 transport aircraft</td>
<td>3</td>
</tr>
<tr>
<td>“Falcon” 20 transport aircraft</td>
<td>2</td>
</tr>
<tr>
<td>“Falcon” 900 B transport aircraft</td>
<td>1</td>
</tr>
<tr>
<td>SW “Merlin” multipurpose aircraft</td>
<td>5</td>
</tr>
<tr>
<td>CM-170 training aircraft</td>
<td>11</td>
</tr>
<tr>
<td>“Sea King” helicopter</td>
<td>5</td>
</tr>
<tr>
<td>AD system “Mistral”</td>
<td>24</td>
</tr>
</tbody>
</table>

Maritime Component

The primary mission of the maritime component is to ensure Belgian state presence in the maritime territory, to contribute to Belgian foreign policy and trade support, to contribute to technical and military cooperation with the allied countries, to contribute to the humanitarian missions, fishing control, oceanographic research, police and customs operations support and commercial naval officers training. In the event of large conflict it would concentrate within the North Atlantic Alliance on the following goals:

- Air/sea control, escort support to ship transport and mine warfare,
- Building a unit at the level of battle group assigned for joint NATO operations.

In addition, it should be able to provide 650 personnel for multinational operations of the following types:

- Building a multinational unit of escort vessels operational for six months, for a longer period provide for personnel rotation,
- Building a group assigned for anti-mine warfare composed of five mine hunters and their logistic support operational for six months, less vessels should be deployed in a longer mission due to necessary rotation,
- Building capacity for strategic naval transports (by 2015).

The weapon and technology assets of the maritime component are listed in Table 7.
Medical component

The primary mission of the medical component is to provide the armed forces with medical care, in emergency or crisis situations provide assistance to the civilian medical facilities and population.

The medical component comprises the command (COMOOPSMED), four Medical operations Centres (CMO) and four Elements for Medical Intervention (EMI) located in various provinces of Belgium. In requested, the medical component should detach:

- First aid medical units,
- Medical units deployable off Belgian territory disposing modern equipment, able of fast transport and evacuation of casualties from the area of deployment.

The planned establishment of the Belgian medical element is 1150 personnel in 2015.

Specification of the armed forces and interoperability

In specialization, Belgian armed forces particularly concentrate on cooperation with neighbour countries within Benelux, further they cooperate with other NATO member countries and in the newly built EU security structures.

Belgium has declared its intention to specialize, similarly to the Czech Republic, in nuclear, biological and chemical weapon defence within the North Atlantic Alliance, naval mine hunting within Belgian Navy.

Belgian Air component has closely involved in the North Atlantic Air Force structures being able of, in addition to national territory defence, active commitment in combined operations, a prove of which was Belgian contribution to the air campaigns in Bosnia and Yugoslavia. An agreement was made with the Netherlands in 1998 on common control of Benelux countries air space carried out by the radar bases Nieuw-Milligen, Netherlands and Glons, Belgium.

Table 7: Weapon/technology systems of Belgian Maritime Component

<table>
<thead>
<tr>
<th>Weapon/technology system</th>
<th>Pieces</th>
</tr>
</thead>
<tbody>
<tr>
<td>Multipurpose frigates</td>
<td>3</td>
</tr>
<tr>
<td>Cost patrol boats</td>
<td>1</td>
</tr>
<tr>
<td>Mine layers (under construction: 2002—2005)</td>
<td>4</td>
</tr>
<tr>
<td>Mine hunters</td>
<td>7</td>
</tr>
<tr>
<td>Supply ships</td>
<td>2</td>
</tr>
<tr>
<td>Tow boats</td>
<td>4</td>
</tr>
<tr>
<td>Oceanographic vessel</td>
<td>1</td>
</tr>
<tr>
<td>Training vessel</td>
<td>1</td>
</tr>
<tr>
<td>Helicopters (Alouette III)</td>
<td>3</td>
</tr>
</tbody>
</table>
The Belgian air component also contributes to the effort of Benelux combined unit DATF assigned for peace supporting and peace keeping within UN, OSCE, NATO and WEU missions and to European air group (EAG) within which European airlift coordination cell (EACC) was established in 2001 to improve effectiveness and coordination of existing transport capacity of contributing nations.

The Benelux countries have built also common air unit assigned for operations out of home territory. Cooperation in the peace supporting missions lead to building combined battalions with Luxembourg, Ukraine and Romania that have been deployed in Kosovo as BELUKROKO.

Belgian armed forces were the first who in 1993 committed in the originally French-German project of Eurocorps contributing now two mechanised brigades deployable in the peace supporting missions under the mandate of UN, OSCE, NATO, WEU or European Union.

Belgian Navy contributes 22% personnel to Amiral Benelux–ABNL, i.e. common programme of maritime forces together with the Netherlands and Luxembourg.

**Belgian military modernisation: general trends in 2000—2015**

In 1999, Belgian government established a fixed index of defence expenditures from GNP for the period 2000—2015. This decision should allow numerous investments in this sector and replacement of most current weapon systems at land, air and maritime components. Belgian armed forces answered the geostrategic changes and new security environment with limited establishment, however superior equipment and outfit should be available.

The modernization should reflect for particular Services in the following:

- **Mechanized units**
  - Acquisition of latest vehicles of several types (20-ton cargo tractors, engineer kits, shipping container carrier vehicles),
  - Acquisition of night-vision equipment,
  - Acquisition of new infrared guiding subsystems for Mistral AD system.

- **Airmobile units**
  - Acquisition of armoured ambulances of Pandur type,
  - Acquisition of A 109 helicopter flight simulators.

- **Tactical Air Force**
  - Acquisition of new laser guiding systems,
  - Acquisition of smart ammunition of various types,
  - Acquisition of latest generation communication equipment,
  - New identification system (IFF model S),
  - Digital communication system,
  - F-16 aircraft armament.
Transport Aviation
- Acquisition of four transport aircraft (Embraer),
- Acquisition of eight A 400 M transport aircraft, one of them is assigned for Luxembourg Armed Forces,
- Acquisition of and installation of satellite communication equipment for Airbus A 310 and C 130 H aircraft.

Maritime units intended for mine hunting
- Common project with Netherlands Navy – minesweepers modernization (CUP CMT).

Maritime units intended for patrols and escorts
- Overall modernization of frigates,
- Acquisition of advanced satellite communication equipment.

Strategic reconnaissance
- Cooperation in developing Helios II orbital satellite.

Command, control and information
- Acquisition of C3I system for general staff,
- Modernization of communication network (Rita – CMX, C2, staff telecommunications).

Finance considerations of armament

Modernization and development of Belgian armed forces are determined by national economic potential and by political will of funding defence. After a substantial drop of defence expenditures in the early 90s Belgian budget has stabilized at the rate of 1.5 % GNP since 1997.

To complete modernization and reform as projected in the strategic plan Belgian government assigned, in 2000, fixed budget for the Ministry of Defence till they finish, i.e. till 2015. The Ministry of Defence will surely get the annual income of € 2,479 million valorised if large exchange rate changes occur, being thus able to follow the set timetable of implementing planned modifications keeping the department stabilized. The government may even accumulate the funds in particular situations.

In the three first years the expenditure level was maintained also in consideration of inflation rates 1.3 % in 2001 and 2.5 % in 2002 against 2000, which called forth another € 138.5 million including other unplanned expenses.

In terms of structure, the largest portion of the defence expenditures is allocated to personnel (see Figure 2). The current expense in this sector is now slightly above that in the period 2000—2002 due to federal administration reforms and specialists recruitment. However, within the outlook horizon of the reform, it is by 2015, it is expected to moderately decrease in total. From € 1,375 million in 2000 (highest personnel expenditure being set for this year at € 1,458 mil.) to € 1,237 million in 2015, which makes the total drop from 55 % to 49 % of defence expenditure. Higher cost is expected in the period 2004—2007 in which Belgian forces deployed in Germany will be redeployed.
Operating expenses were unable to maintain at the set level due to oscillating oil price and EUR/USD exchange rate changes, but piling the expenses by € 25 million by 2005 should stabilize the expense rate in this sector. Total expenditure should amount € 626 million in 2015, then 25 % of the budget.

Infrastructure investments vary between € 78 and 85 million in 2001—2006. They should stabilise in the oncoming period to keep at the level of 85 million (3 % of total budget) that includes Belgian contribution to the NATO programme.

Increased funding of investment in materiel is set to be comprised in the highest priorities of the new plan. Funds for implementing the long-term project Objectifs d’investissement pour la Défense et la Sécurité (OIDS) amount € 169 million in this year while reaching 497 million in 2015, which represents percent increase from 7 % to 20 % of total budget. The project spans two phases; the first one is, covering the five first years, specified in Plan d’investissements pour la Défense et la Sécurité (PIDS).

The budget framework reserves EUR 25 million (1 % budget) to cover unplanned expense, particularly for Belgian troops deployed in missions abroad, if applicable. That reserve should suffice funding missions of 500 personnel for one year or 1000 personnel for six months.

Fig 2: Defence expenditure structure (in pct)

Conclusion – Chances of Belgian / Czech Armed Forces cooperation

Belgium is one of the potential nations who could sale or rent F-16 fighters of their reserves. If this happened or if the aircraft of the same type were acquired from other sources, commitment in combined modernisation project in which Belgium actively participates would seem prospective, as well as learning Belgium lessons in application, training and logistic support of such aircraft.
Belgian Armed Forces: Trends in Development

Probably cooperation in the issue of nuclear, biological, chemical weapons protection is more likely regarding the notified specialization of the Czech Army within NATO. It is this area that should become a priority for Belgian armed forces bringing benefit of exchange of experience and information to both parties. Currently, active trade of chemical agents and plastic materials is in progress. Interesting experience and lessons to exchange and share could be from the areas of prepared or running tenders on wheeled armoured careers or the Czech experience in implementation process and operating the land operation/tactical command and control systems.

The high debit balance in the motor vehicle accessories item (CZK 3.2 bill.) that closely relates to foreign investment in exactly those sectors in the CR and to vast automobile industry in Belgium (assembling Ford, VW, Volvo, Opel, New Holland, buses and others) plays a principal role for potential further development in mutual relations and indirectly affects defence industry.

A look from general perspective shows that Belgium will obviously commit major projects together with the traditional partners and co-operators within the countries of Benelux and its leading economic partners France or Germany.

In the sphere of building armed forces Belgium has adopted the principle of specialised armed forces establishment while keeping the operation capability balanced over the whole spectrum of military actions. The specialisation process is made in stage steps according to time schedule rather than in sudden pulses which option is irrespective from the development of international relations, militarism or advanced technologies.

Thanks to broad political acceptance, unlike the CR, of the principal premises of the Belgian military reform the level of promised budget funds for defence department maintains stable to avoid substantial modifications in the plan due to political upheavals.

Such stability allows Belgian armed forces concentrate on the medium- or long-term planning of necessary material/human resources acquisition. The ongoing reform of Belgium armed forces proves that prime and effective allocation of resources is the baseline for building modern armed forces.

Solving the problems in armed forces reform Belgium closes in many respects the challenges facing the Czech armed forces. In spite of impossible application of all approaches or methods acquitted in the armed forces reform in Belgium under the conditions of the Czech Republic, it would be interesting to utilise knowledge and experience gained by the Belgian military from the process.
DEFENCE AND STRATEGY

References

ANTUŠÁK, E.; SVOZIL, P. Současná evropská bezpečnost a národní zájmy ČR. Vojenské rozhrady, 1996, č. 6, s. 3–7.


STRNÁDEK, J. Evropská bezpečnostní politika ve 21. století. Vojenské rozhrady, 1997, roč. 6, č. 4, s. 72—86.


BELGIAN ARMED FORCES: TRENDS IN DEVELOPMENT


Notes


3 ŠMONDRK, J. Analýza finančních zdrojů pro zabezpečení potřeb ČR (Financial Resources Analysis for CR Requirements); Institute of Strategic Studies project ÚSS/2002-S-3-017. Brno: ÚSS VA Brno, 2002. p.15.