flemish peace institute

# *Flemish foreign trade in dual-use items 2010*

*Report*

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## COLOPHON

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# SYNOPSIS

Dual-use items are items that were not developed specifically for military purposes, but may nevertheless have a military application. The export of these dual-use items is regulated by Regulation (EC) 428/2009, which is directly applicable throughout the European Union.There are important distinctions between the transfer of dual-use items within the EU, the export of these products to 'friendly' countries, and exports to 'other' countries.

## Intra-Community transfers

With the exception of a number of nuclear-related products, no licence is required for transfers of dual-use items to other EU Member States. The total scale of transfers of dual-use items from Flanders cannot therefore be estimated on the basis of the licences granted. In 2010, 16 individual licences were issued for the transfer of nuclear materials (CAT0) to seven EU Member States. These related to the transfer of special fissile materials.

## Exports to 'friendly' countries

For the export of most dual-use items to seven 'friendly' countries (Australia, Canada, Japan, New Zealand, Norway, Switzerland, and the United States) a Community General Export Authorisation applies, which means in practice that no further licence application need be made in Member States for such transfers. In this case too, therefore, the full scale of dual-use exports to 'friendly' countries cannot be assessed. For the products for which a specific licence application must be submitted, 20 individual licence applications and one global licence application were submitted in 2010. Most licence applications related to the export of nuclear materials (CAT0), but some applications were also submitted for special materials (CAT1).

## Exports to 'other' countries

For exports to 'other' countries outside the EU, 87 individual licences and 51 global licences were issued in Flanders in 2010.

The *individual licences* related to specific transactions, notably to cases where a company intended to export specified licenseable products to one specified recipient in one specified country. Electronics (CAT3) and special materials and related equipment (CAT1) made up half and a third, respectively, of the value of individual licences issued for exports of dual-use items from Flanders in 2010. Individual licences were also issued for the export of products for information security (CAT5), materials processing equipment (CAT2), sensors and lasers (CAT6), nuclear materials (CAT0) and global navigation satellite systems receiving equipment (CAT7). The total value of the individual licences issued was EUR 42.7 million. This was a decrease relative to previous years, mainly because applications are increasingly made for global licences instead of individual licences for the export of special materials and related equipment (CAT1).

*Global licences* are not issued for a specified individual transaction, but allow a Flemish exporter, within the value of the licence, to export a number of pre-specified products to all countries included in the licence. The combined value of global licences issued in 2010 reached EUR 429.3 million. Since Flemish companies apply for global licences for the export of their products to a broad range of potential clients, this figure represents a marked overestimate of the value of

actual exports of these globally licensed products. While the global licences issued in 2010 for exports to 'other' countries on average listed 9.3 recipient countries, approximately half of these licences had only one recipient country. Most global licences were issued for the export of special materials and related equipment (CAT1), but a number of licences were also issued in 2010 for products for information security (CAT5). A restriction on the end users was imposed for 18 licences in total.

In order to do the utmost to avoid undesirable end-uses, such as the development of weapons of mass destruction, the EU Regulation includes a catch-all clause making it possible to impose licensing also for the export of 'free' products. In 2010 the Flemish Government issued six individual licences, with a total value of EUR 5.2 million, on the basis of this catch-all clause.

In 2010 a total of nine applications for an export licence for dual-use items were denied by the Flemish Government - more than in previous years.

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# 1 Introduction

Dual-use items are products that were not developed specifically for military purposes, but may nevertheless have a military application. For security reasons, the trade in these goods is also controlled, particularly in order to combat the undesirable proliferation of nuclear, chemical and biological weapons and related technologies.

The export of dual-use items is regulated by Regulation (EC) 428/2009 of 5 May 2009. This regulation is directly applicable throughout the European Union, as part of the common trade policy. The annex to this regulation includes an extensive list of dual-use items subject to a licence (Annex I). This list is in turn based on the lists used in relevant international control regimes *(Wassenaar Arrangement*, *Missile Technology Control Regime*, *Nuclear Suppliers Group*, *Australia Group*, *and the Chemical Weapons Convention).*

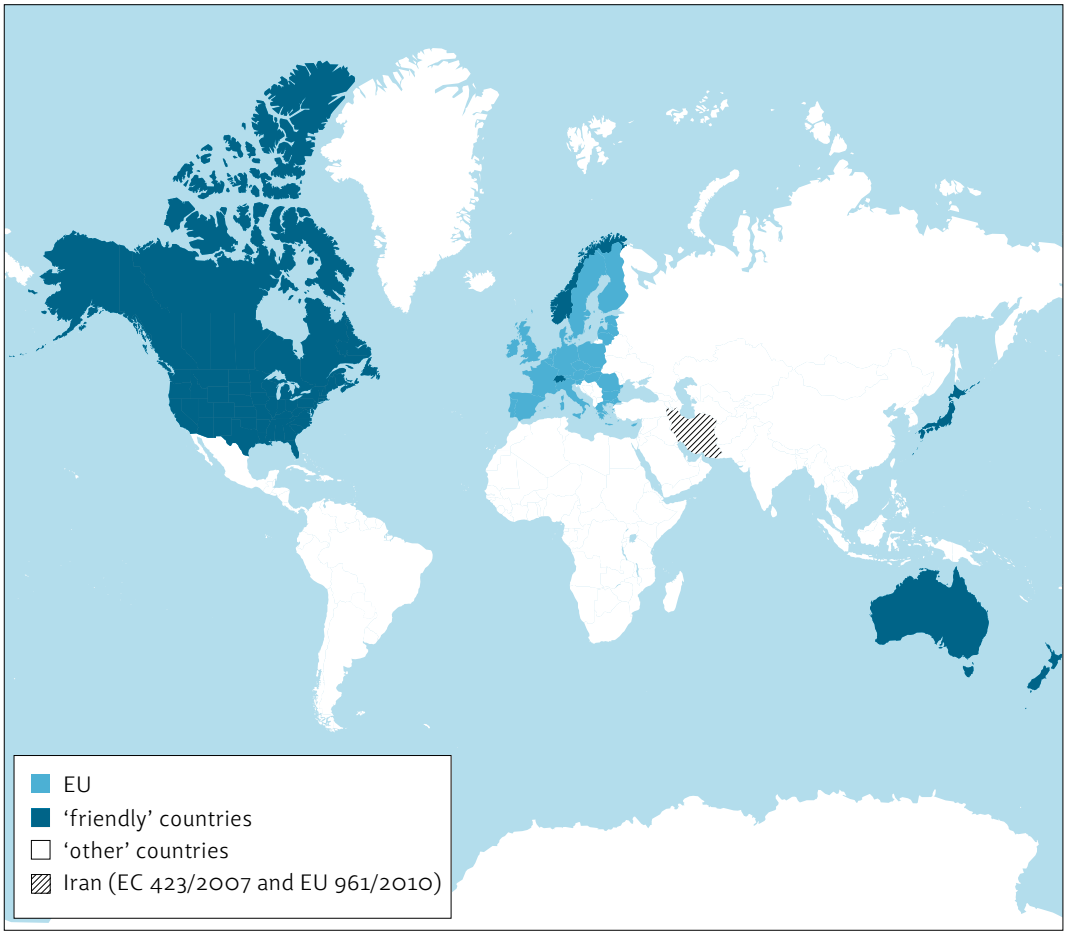
In Belgium, the competence for trade in dual-use items is regionalised together with competence for the arms trade. Since 2003 the three regions have been responsible for the implementation of European regulations with respect to dual-use items. In Flanders, the procedure for handling licence applications for trade in dual-use items is quite similar to that for handling licence applications for the arms trade, i.e. through the Strategic Goods Monitoring Unit and the competent minister. In contrast to licences for military equipment, dual-use items in the Flemish control system in principle have a civil end user. If the destination or end user of these products is military, the trade falls under the catch-all clause of the Royal Decree on foreign arms trade of 1993, and the goods are considered as military equipment.

Given the free movement of materials within the European Union, there is an important distinction between the transfer of dual-use items within the EU and the export of these products to countries which are not part of the EU. In contrast to military equipment, no licence is needed for the transfer of most dual-use items to other ***EU Member States***. However, certain specific nuclear-related products form an important group for which a licence is necessary for trade within the EU.

For the export of dual-use items to ***countries outside the EU*** a licence application must be submitted to the competent authorities in each Member State. For the export of dual-use items to a limited number of 'friendly' countries outside the EU (Australia, Canada, Japan, New Zealand, Norway, Switzerland, and the United States) a Community General Export Authorisation applies to most dual-use items, which in practice means that for trade in these items no further licence need be applied for in Member States. For export to 'other' countries outside the EU, an individual or a global export licence is still required in Flanders.[1] These are two different types of licences. Individual export licences relate to specified individual transactions (the export of specified products to a specified destination). With a global licence, on the other hand, a Flemish exporter can export a number of pre-specified products to the countries included in the licence, up to the licence's value. The exporter can in principle export his licensed products to all civil recipients within the countries listed in the global licence. In some cases global licences are issued for a limited number of end users in the listed recipient countries.

The European Union has also imposed ***additional restrictions*** on the export of an extra range of products to Iran, fearing the country's alleged ambitions to develop nuclear weapons.

1 Flanders does not issue general national licences for the export of dual-use items.




In this report we analyse the licences granted and denied in 2010 for intra-Community transfers and for exports of dual-use items.[1] These analyses are based on data from the official reports published by the Flemish Region's Strategic Goods Monitoring Unit on its website.[1] While the law of 1991 relating to the arms trade [2] imposes a reporting duty on the competent authority regarding licences issued for foreign trade in military equipment, this is not the case for foreign trade in dual-use items. Nevertheless, since January 2007 information about Flemish licences for the export and transit of dual-use items has been publicly available. The Strategic Goods Monitoring Unit publishes a monthly report with an overview of the export licences issued and denied for these products for the month in question. In relation to the present report's analysis, it is important to keep in mind that a large part of the trade in dual-use items is free (within the EU) or subject to a Community General Export Authorisation (with a number of other industrialised countries). No licences are issued for such trade by the Flemish Government, and they are therefore not included in the monthly report just referred to. These transactions are also not included in the analyses presented in this report.
Before analysing licences issued for intra-Community transfers and for exports of dual-use items, we shall first briefly discuss the Flemish Government's present reporting methods regarding these licences.

1 The obligation to apply systematically for a licence for each transit of dual-use items expired on 27 August 2009. A transit may still be made subject to licensing on the basis of two catch-all clauses, specifically in cases where there is a suspicion of use of the free items for weapons of mass destruction or of a military end-use in recipient countries to which an arms embargo applies. In 2010, as in 2009, no licences were issued by the Flemish Government for the transit of dual-use items.

# 2 Flemish reporting methods for trade in dual-use items in 2010

Since January 2007, monthly reports providing an overview of the licences approved and denied for the definitive export and transit of dual-use items have been made available via the website of the Strategic Goods Monitoring Unit.

In the monthly reports the following characteristics are, as a rule, stated for each licence application:

- the nature of the goods [I]
- the recipient country (or countries) [II]
- the value of the licence application.

Since the monthly report of April 2007, it has been explicitly stated at the end of each report which licences are global licences and which are not. At the end of the monthly report additional information is sometimes also communicated, for example if a restriction on the end users is imposed on a global licence by the licensing authority.

In contrast to reporting on foreign trade in military equipment, the type of end user of the products is not reported in the monthly dual-use reports. The government justifies this practice by stating that the end user is always civil in nature. Exports of dual-use items with a military end-use falls under the Belgian catch-all clause of the Royal Decree on foreign arms trade of 1993 and are therefore included in the periodic reports on foreign trade in military equipment. For a number of licences, the end user of the exported products is not situated in the country of the recipient. In these cases both the country of the recipient and the end user's country are stated in the relevant monthly report.

I The nature of the item is described according to the code for the main category and the more detailed sub-category of the products, based on the European list of dual-use items (Annex I to Regulation (EC) 428/2009). The products and technology included in this list are divided into 10 main categories, each with five sub-categories (A: "Systems, equipment and components", B: "Test, inspection and production equipment", C: "Materials", D: "Software", E: "Technology"). A further distinction is made within these sub-categories between products and technology.

II In the past, for individual transit licences the country of origin was stated as well as the recipient country. However, in 2010 no transit licences were issued by the Flemish Government.

# 3 Intra-community transfers

In the European Union there is free movement of goods. This principle also applies to intra-Community trade in dual-use items – a few exceptions aside. For the transfer of these products between EU Member States, a licence is only required in a limited number of cases:

- The first exception relates to the export of dual-use items in Annex IV to Regulation (EC) 428/2009 (in which the most sensitive products from Annex I are again listed). For these products a stricter regime applies, and a licence is required also for intra-Community transfer. The Flemish Government issues individual licences for this purpose.
- In addition, a Member State may in some specific cases also impose a licensing obligation for the transfer to another Member State of dual-use items which do not appear in Annex IV. [1]

It is important to emphasise that trade within the Benelux countries is an exception to all of this. No licence is required for this trade, not even for products on the list in Annex IV.

## 3.1 Licences issued

In 2010 the Flemish Government issued 16 individual licences for the transfer of dual-use items within the EU. All were licences for the transfer of nuclear materials (CAT0), and most licences related to special fissile materials.

12 licences for intra-Community transfer of fissile materials (CAT0 C002) were issued in 2010, with a value of EUR 7.3 million. The fissile materials were destined for Germany, France, Hungary, Austria, Poland and the United Kingdom. A licence was also issued for the transfer of equipment for a nuclear plant (CAT0 B005) to Sweden. Most licences were issued for the transfer of nuclear materials to France. In addition to special fissile materials, licences were also issued for the transfer of nuclear reactor internals (CAT0 A001.h), zirconium metal and alloys in the form of tubes (CAT0 A001.f), and nuclear-related technology (CAT0 E001).

It is worth noting that Kazakhstan was given as the country of end-use for this last transfer of nuclear-related technology to France.

1 This is possible if all of the following conditions are met:
1) the exporter knows that the final destination of the items concerned is outside the European Community;
2) export of the items to that final destination is subject to a licensing obligation in the Member State from which the items are to be exported pursuant to Articles 3, 4 or 8 of Regulation (EC) 428/2009, and such exports directly from its territory cannot be made under a general or global licence;
3) no processing or working as defined in Article 24 of the Community Customs Code will be performed on the items in the Member State to which they are to be transferred.

***Table 1:*** *Overview of individual licences for intra-Community transfer of dual-use items, 2010*

| Nature of the items | Number of licences | Value |
|---|---|---|
| **Germany** | | |
| – Special fissile materials (CATO C002)[I] | 3 | 7,208,175.00 |
| **France** | | |
| – Nuclear reactor internals (CATO A001.h) , zirconium metal and alloys in the form of tubes (CATO A001.f)[III] | 1 | 17,307,536.00 |
| – Zirconium metal and alloys in the form of tubes (CATO A001.f) | 1 | 7,688,400.00 |
| – Special fissile materials (CATO C002) | 3 | 37,840.00 |
| – Technology for the development, production or use of nuclear materials (CATO E001) | 1 | 100.00 |
| **Hungary** | | |
| – Special fissile materials (CATO C002) | 1 | 500.00 |
| **Austria** | | |
| – Special fissile materials (CATO C002) | 1 | 1,040.00 |
| **Poland** | | |
| – Special fissile materials (CATO C002) | 1 | 2,020.00 |
| **United Kingdom** | | |
| – Special fissile materials (CATO C002) | 3 | 57,520.00 |
| **Sweden** | | |
| – Plant specially designed for the fabrication of nuclear reactor fuel elements and specially designed or prepared equipment therefor (CATO B005) | 1 | 565,159.14 |
| **Total** | **16** | **32.868.290,14** |

The total value of licensed transfers of dual-use items in 2010 was significantly lower than in previous years (see Table 2). Compared with 2009, the value of these licensed transfers fell by 36%, and compared with 2007 it fell by as much as 74%. This was largely due to a large drop in licensed transfers to Germany.

I Nuclear reactor internals specially designed or prepared for use in a nuclear reactor, including support columns for the core, fuel channels, thermal shields, baffles, core grid plates and diffusor plates.

II Zirconium metal and alloys in the form of tubes or complexes of tubes in which the ratio hafnium to zirconium is less than 1:500 parts by weight, specially designed or prepared for use in a nuclear reactor.

III These special fissile materials include plutonium-239, uranium-233, uranium enriched in isotopes 235 or 233, and any material containing the foregoing.

***Table 2:*** *Overview of recipient countries and value of licensed intra-Community transfers of dual-use items, 2007-2010*

| Recipient country | 2007 | 2008 | 2009 | 2010 |
|---|---|---|---|---|
| Germany | 123,993,235.00 | 14,710,460.00 | 51,558,470.00 | 7,208,175.00 |
| France | 496,440.00 | 34,654,256.40 | 13,417.48 | 25,033,876.00 |
| Greece | – | – | 100.00 | – |
| Hungary | – | 100.00 | – | 500.00 |
| Ireland | – | – | 150.00 | – |
| Austria | 0.00 | 159,000.00 | 1,050.00 | 1,040.00 |
| Poland | 0.00 | 0.00 | 0.00 | 2,020.00 |
| United Kingdom | 100.00 | 5,140.00 | – | 57,520.00 |
| Sweden | – | 520.00 | 6,470.00 | 565,159.14 |
| **Total** | **124,489,775.00** | **49,529,476.40** | **51,579,657.48** | **32,868,290.14** |

This does not, however, automatically mean that the trade in dual-use items within the EU has fallen significantly, since the transfer of the vast majority of these products is not controlled by licence. We can, however, be certain that licenseable transfers of nuclear dual-use items have fallen significantly.

## 3.2
## Denied licence applications

As in previous years, no licence application for intra-Community transfer of dual-use items was denied in 2010.

# 4 Exports of dual-use items

In contrast to the trade between EU Member States, cross-border trade in dual-use items to countries outside the European Union is subject to a licence obligation. Since there is an important difference between the export of dual-use items to 'friendly' countries and to 'other' countries, we shall analyse the licences issued and denied in two separate sections of this chapter.

## 4.1 'Friendly' countries

On the basis of Regulation (EC) 428/2009, companies in Europe can make use of a Community General Export Authorisation (CGEA) [I] for most dual-use items if they wish to export these products to 'friendly' countries outside the EU, i.e. Australia, Canada, Japan, New Zealand, Norway, United States en Switzerland. Exporters making use of a CGEA do not need to apply for any further specific licences for these products, but must inform the national authorities at the latest within 30 days of the date of the first export.[II] It is for the Member State to determine what reporting obligations apply for the use of the CGEA and precisely what information about the licensed export must be supplied by exporters.[3] For the export to 'friendly countries' of a limited number of dual-use items where no CGEA applies, the exporters must apply for individual or global export licences in the Flemish Region.[III]

### 4.1.1 Licences issued

In 2010, 20 individual licences were issued for the export of dual-use items to 'friendly countries' (see Table 3). With one exception (Japan), the licences issued covered exports of limited value. The combined value of these individually licensed exports in 2010 came to EUR 350,702.

I This Community General Export Authorisation applies to all products in Annex I to Regulation (EC) 428/2009, with the exception of the products specified in Part 2 of Annex II (all products from Annex IV and 12 additional categories).

II In relation to the Community General Export Authorisation there are two important restrictions. First, a CGEA cannot be used if the exporter is informed by the competent authority that the products could partially or in their entirety be intended for use in weapons of mass destruction, or for a military end-use in a country to which an arms embargo applies. Secondly, a CGEA cannot be used if the products involved are exported to a customs free zone or a free warehouse in one of the above-mentioned recipient countries.

III This relates to products from Part 2 of Annex II to Regulation (EC) 428/2009.

***Table 3:*** *Overview of individual licences for exports of dual-use items to 'friendly' countries, 2010*

| Nature of the items | Number of licences | Value |
|---|---|---|
| **Australia** | | |
| – Saxitoxin (CAT1 C351.d.5) | 1 | 105.00 |
| – Natural uranium or depleted uranium or thorium (CAT0 C001) [I] and special fissile materials (CAT0 C002)[II] | 1 | 1,040.00 |
| **Canada** | | |
| – Special fissile materials (CAT0 C002) | 2 | 1,140.00 |
| **Japan** | | |
| – Special fissile materials (CAT0 C002) | 2 | 324,320.00 |
| **United States** | | |
| – Natural uranium or depleted uranium or thorium (CAT0 C001) | 2 | 2,135.00 |
| – Special fissile materials (CAT0 C002) | 4 | 1,810.00 |
| – Natural uranium or depleted uranium or thorium (CAT0 C001) and special fissile materials (CAT0 C002) | 2 | 17,465.00 |
| – Lithium, enriched in the lithium-6 (6Li) isotope to greater than its natural isotopic abundance, and products or devices containing enriched lithium (CAT1 C233)[III] | 1 | 275.00 |
| **Switzerland** | | |
| – Xanthomonas campestris pv.citri. (CAT1 C354.b.2)[IV] and Ralstonia solanacearum Races 2 and 3[V] (CAT1 C354.b.5) | 1 | 42.00 |
| – Aflatoxins (CAT1 C351.d.11) | 1 | 100.00 |
| – Special fissile materials (CAT0 C002) | 1 | 2,060.00 |
| – Ralstonia solanacearum races 2 and 3 (CAT1 C354.b.5) | 1 | 0.01 |
| – Saxitoxin (CAT1 C351.d.5) | 1 | 210.00 |
| **Total** | **20** | **350,702.01** |

I Natural uranium or depleted uranium or thorium in the form of metal, alloy, chemical compound or concentrate and any other material containing one or more of the foregoing.

II These special fissile materials include plutonium-239, uranium-233, uranium enriched in the isotopes 235 or 233, and any material containing the foregoing.

III Lithium, enriched in the lithium-6 (6Li) isotope to greater than its natural isotopic abundance, and products or devices containing enriched lithium as follows: elemental lithium, alloys, compounds, mixtures containing lithium, manufactures thereof, waste or scrap of any of the foregoing.

IV Xanthomonas campestris pv. citri., including strains referred to as Xanthomonas campestris pv. citri types A, B, C, D, E or otherwise classified as Xanthomonas citri, Xanthomonas campestris pv. aurantifolia or Xanthomonas campestris pv. citrumelo.

V Ralstonia solanacearum Races 2 and 3 (Pseudomonas solanacearum Races 2 and 3 or Burkholderia solanacearum Races 2 and 3).

Most individual licences were issued for the export of “nuclear materials” (CAT0). They involved, specifically, exports of special fissile materials (CAT0 C002) to Australia, Canada, Japan, the United States and Switzerland, and exports of "natural uranium or depleted uranium or thorium" (CAT0 C001) to Australia and the United States.

Individual licences were also issued for the export of “special materials and related equipment” (CAT1). They involved exports of specific toxins (C351.d) to Australia (saxitoxin [I]) and Switzerland (aflatoxins [II] and saxitoxin), exports of two specific types of plant pathogens (C354.b) to Switzerland, and exports of lithium (C233) to the United States.

In addition to the individual licences, in 2010 a global licence was also issued for the export of aflatoxins (C351.d.11), to a value of EUR 52,500, to the seven friendly countries.

Thus in 2010, individual and global licences for the transfer of dual-use items to a value of approximately EUR 0.4 million were issued by the Flemish Government. It should however be stressed again that these figures refer to a limited range of dual-use items, since CGEAs cover the export of most licenseable products to ‘friendly countries’. The total size of expors of dual-use items from Flanders to friendly countries is thus unknown.

### 4.1.2 Denied licence applications

As in previous years, in 2010 no licence application for the export of dual-use items to ‘friendly’ countries was denied by the Flemish Government.

## 4.2 Other countries

In this section we analyse the licences issued in 2010 for the export of dual-use items to ‘other’ countries. ‘Other’ countries are those which are not members of the European Union and which also do not belong to the list of ‘friendly’ countries (Australia, Canada, New Zealand, Norway, Switzerland, and the United States). For these countries the export of dual-use items listed in Annex  of Regulation (EC) 428/2009 is controlled by licence. Companies can apply to the competent department of the Flemish Government for individual or global licences for this purpose.

I Saxitoxin is a very poisonous neurotoxin (material that affects the nervous system) and can be used as the basis for chemical weapons

II Aflatoxin is a toxin produced by moulds of the genus Aspergillus and can be used as the basis for biological weapons.

## 4.2.1 Individual licences issued

Individual licence applications are submitted for a specific transaction, notably when a company intends to export specific licenseable products to a specified recipient in a specified country. These licences are valid for one year and may be extended by one year. After such a licence has been used or has expired, the applicant must return it to the competent department of the Flemish Government.

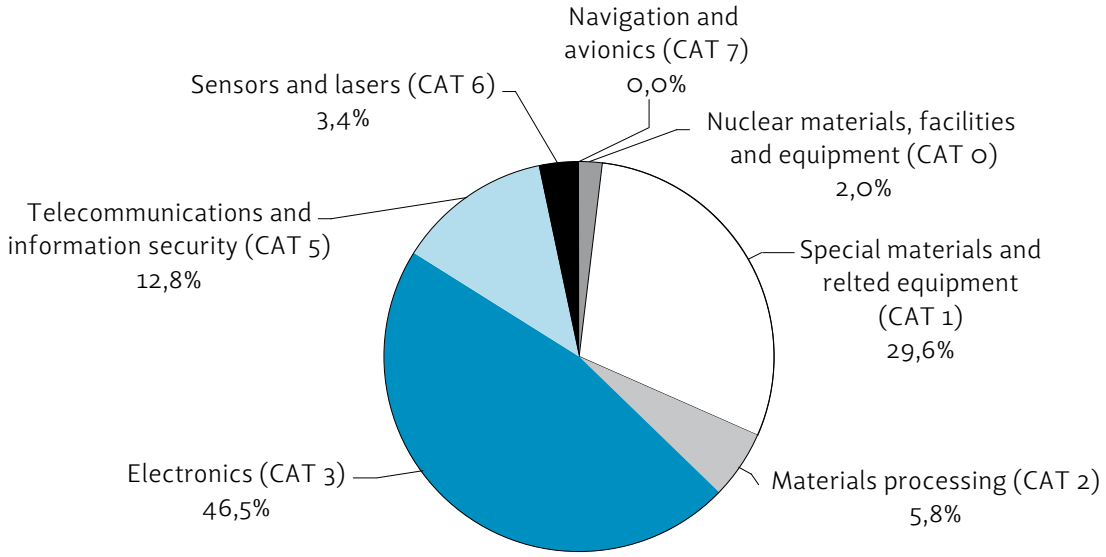
In 2010, 87 individual licences with a combined value of EUR 42.7 million were issued by the Flemish Government for exports of dual-use items to non-EU Member States where Community General Export Authorisations do not apply.

### 4.2.1.1 Nature of the items

***Electronics*** (CAT3), at EUR 19.9 million, made up approximately half of the value of licensed exports of dual-use items from Flanders in 2010. This figure reflected a limited number of high-value individual licences for the export of resists and technology for the development or production of electronic equipment or materials requiring a licence.

Approximately one third of the value of the individually licensed export of dual-use items related to ***special materials and related equipment*** (CAT1 – EUR 12.6 million). This category includes all kinds of materials such as chemicals suitable for manufacture of toxic materials and precursors of poisonous chemicals, but also materials specially designed for use as absorbers of electro-magnetic waves or reduced observables. In addition to these materials, individual licences were also issued *inter alia* for specific inspection equipment.

***Figure 1:*** *Value of individual licences for dual-use exports to 'other' countries, by category, 2010* [1]




1 For an overview of the number and value of the individual export licences issued, see Table 23 in the Appendix.

Individual licences were also issued for the export of products for information security (CAT5 – EUR 5.5 million), materials processing (CAT2 – EUR 2.5 million), sensors and lasers (CAT6 – EUR 1.4 million), nuclear materials, facilities and equipment (CAT0 – EUR 0.8 million) and one licence for the export of global navigation satellite systems receiving equipment (CAT7):

- The licences for information security (CAT5) related to components of cryptographic systems and accompanying software
- The licences for materials processing (CAT2) related to chemical production equipment – such as specific fluoropolymer pumps and valves – as well as specific machine tools, testing equipment and related software
- The licences for sensors and lasers (CAT6) related to (parts of) imaging cameras and specific lasers
- The licences for nuclear materials, facilities and equipment (CAT0) related both to equipment for nuclear reactors, and to specific nuclear materials such as specific fissile materials and deuterium.

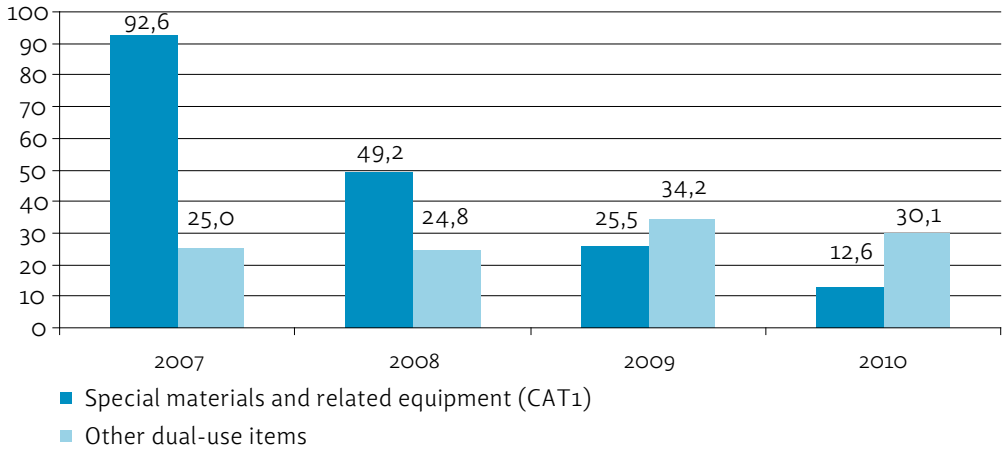
#### 4.2.1.2 A steady decline in value of individually licensed exports

Between 2007 and 2010, a steady fall in the value of individually licensed exports has been observed (see Table 4). This fall is fully explained by a noteworthy trend in the nature of licences issued for the export of special materials and related equipment (CAT1) to the 'other' countries. Figure 2 shows that the value of individually licensed exports of these dual-use items has declined steeply in past years: from EUR 92.6 million in 2007 to EUR 12.6 million in 2010. Elsewhere in this report we will show that the value of globally licensed exports of these products has risen sharply (see Section 4.2.2).

***Table 4:*** *Number and value of individual licences for dual-use exports to 'other' countries, 2007-2010*

| | Number | Value |
|---|---|---|
| **2007** | 59 | 117,595,587.39 |
| **2008** | 67 | 73,942,527.88 |
| **2009** | 66 | 59,724,010.57 |
| **2010** | 87 | 42,715,346.71 |

***Figure 2:*** *Trends in value of individual licences for dual-use exports from Category 1 and the other categories to 'other' countries, 2007-2010*




## 4.2.2 Global licences issued

Global licences, in contrast to individual licences, do not relate to a specified individual transaction but allow a Flemish exporter to export a number of pre-specified products to all the countries included in the licence, up to the value of the licence. In a limited number of cases a restriction is imposed on the recipients to whom goods can be exported in these countries, but in principle the exporter can export his licensed products to all civil recipients within the countries listed in the licence.

The global licences issued in 2010 listed on average 9.3 recipient countries. This average, however, gives a distorted picture of the global licences issued in Flanders. as approximately half of all global licences had only one recipient country (see Table 25 in the Appendix).

In 2010 the Flemish Government issued 51 global licences, with a combined value of EUR 492.3 million.[1] In the past year there were more applications for global licences than in previous years, but the total value of these licences was significantly lower (see Table 5).

1 For a full understanding of this analysis it should be noted that there is a discrepancy between the number of global licences analysed in this report and the number of global licences listed in the monthly reports of the Strategic Goods Monitoring Unit. Some major enterprises sometimes apply for several identical global licences to make sure that, by so doing, "they have the necessary documentation at their disposal to deal with the different customs offices and to be able to simultaneously export the listed products to various countries. The company does not intend to export products for the combined amount of thelicences. However, it needs to hold several licences in order to comply with the administrative formalities and to complete the economic process". In the Strategic Goods Monitoring Unit's monthly reports these identical licences are added to the other licences in the tally of the monthly figures, so that the number and value of the global licences issued is artificially high. In the analytical methods for drawing up the current report, these extra licences are not considered as licences but as "copies" of one and the same licence. In the case of a company applying for five identical licences, only one licence is counted towards the total figure. The four other licences are in this case considered merely as extra copies. This makes it possible, by indirect calculation, ito give a more realistic anaysis of licensed trade flows.

***Table 5:*** *Number and value of global export licences for dual-use items to 'other' countries, 2007-2010*

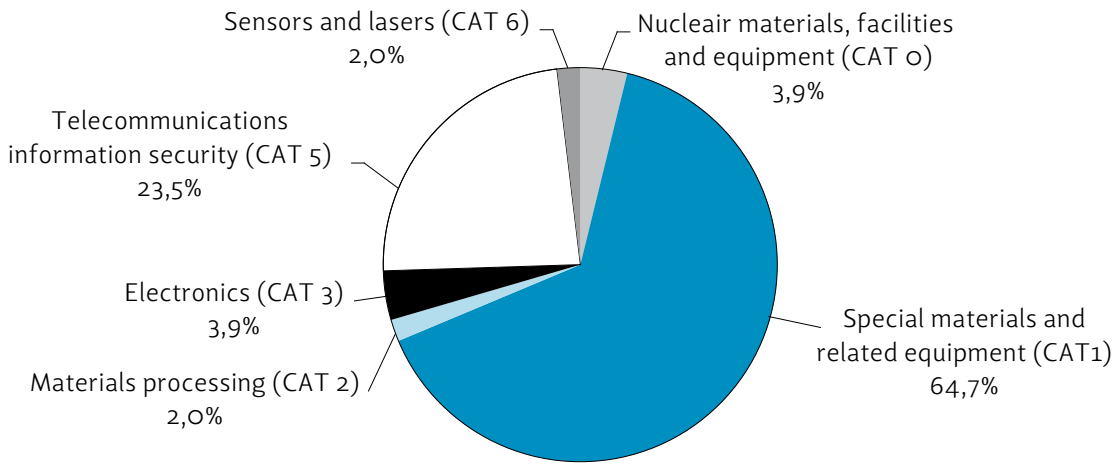
| | Number | Value |
|---|---|---|
| **2007** | 30 | 1,149,438,187.73 |
| **2008** | 43 | 1,126,136,457.45 |
| **2009** | 32 | 1,282,416,642.38 |
| **2010** | 51 | 492,261,268.78 |

Because the exporter can export without restrictions to all countries stated in the global licence, we must view the values stated in these licence applications as maximum amounts. In fact, Flemish companies apply for global export licences for their products for a broad range of potential clients, so that the value given in these specific licences relates to a potential value significantly higher than the actual licensed exports carried out by these firms. The licensed value of EUR 492.3 million is thus a clear overestimate of the value of actual exports of these products under global licences. On the basis of the Flemish Government's present reporting methods, it is not possible to give an estimate of the scale of actual exports of dual-use items under these licences.

#### 4.2.2.1 Nature of the items

An analysis of the number of global licences issued shows that two thirds of the global licence applications were made for the export of special materials and related equipment (CAT1). The 33 global licences for these products had a combined value of EUR 142.9 million. These licences referrred inter alia to specific cooling fluids, chemicals suitable for manufacturing toxic materials, and precursors of poisonous chemicals.

***Figure 3:*** *Value of global licences for dual-use exports to 'other' countries, by category, 2010*[1]




1 For an overview of the number and value of the global export licences issued, see Table 24 in the Appendix.

A considerable number of global licence applications were also made for the export of dual-use items for information security (CAT5). They referred to components for cryptographic systems and related software. The 12 global licences for these information security products had a combined value of EUR 323.1 million.

Only a few applications are made each year for dual-use items from the other categories (CAT0, CAT2, CAT3 en CAT6), which cover nuclear materials, chemical manufacturing equipment, imaging cameras, and resists, integrated circuits and accompanying technology.

#### 4.2.2.2 Restriction on end users

Since a Flemish exporter with a global licence for dual-use items can in principle export to all civil recipients within the approved recipient countries, the risk of undesirable end-use of these potentially very dangerous products is significantly higher than with individual licences. In order to avoid undesirable end-use as much as possible, the Flemish Government has imposed a restriction within a number of global licences on the permitted end users in these countries.

In 2010 the Flemish Government imposed a restriction on end users for approximately a third of the global licences (35%). Table 6 provides an overview of the 18 global licences with a restriction on end users from 2010. They included 14 licences for the export of all kinds of "special materials" (CAT1), such as materials specially designed for use as absorbers of electromagnetic waves, specific types of fluorocarbons, materials and devices for reduced observables, and materials which could be used for the production of chemical weapons. In addition, end user restrictions were imposed in four licences for the export of information security equipment (CAT5) – specifically on certain cryptographic systems and related software.

The number of global licences with a restriction on the end users in 2010 was significantly higher than that in 2009, when only 6 global licences were restricted with respect to end users. The increased total number of global licences in 2010 (see 4.2.2) has thus been largely matched by an increase in the number of global licences in which a restriction on the end users is imposed. A further trend can also be observed. While restrictions on end users in 2009 were mainly related to global licences for dual-use items destined for China, the global licences with a restriction on end users in 2010 covered a broader range of potential recipient countries.

***Table 6:*** *Overview of global licences with a restriction on end users*

| Nature of the goods | Value | Recipient country(/ies) | Comment |
|---|---|---|---|
| Materials specially designed for use as absorbers of electromagnetic waves [I] (CAT1 C001.a) | 150,000.00 | Hong Kong (country of end use: Australia) | Restriction on end users |
| Materials specially designed for use as absorbers of electromagnetic waves (CAT1 C001.a) | 150,000.00 | Hong Kong (country of end use: China) | Restriction on end users |
| Materials specially designed for use as absorbers of electromagnetic waves (CAT1 C001.a) | 150,000.00 | Hong Kong (country of end use: China) | Restriction on end users |
| Materials specially designed for use as absorbers of electromagnetic waves (CAT1 C001.a) | 150,000.00 | Hong Kong (country of end use: China) | Restriction on end users |
| Materials specially designed for use as absorbers of electromagnetic waves (CAT1 C001.a) | 150,000.00 | Japan | Beperking van eindgebruikers |
| Materials specially designed for use as absorbers of electromagnetic waves (CAT1 C001.a) | 150,000.00 | Russia, Singapore, South Africa, Turkey, Ukraine | Restriction on end users |
| Certain types of fluorocarbon electronic cooling fluids [II] (CAT1 C006.d.1.b en C006.d.1.c) | 165,995.74 | Israel | Restriction on end users |
| Materials and devices for reduced observables, usable in missiles, missile subsystems or unmanned aerial vehicles [III] (CAT1 C101) | 150,000.00 | Hong Kong | Restriction on end users |
| Materials and devices for reduced observables, usable in missiles, missile subsystems or unmanned aerial vehicles (CAT1 C101) | 240,000.00 | India | Restriction on end users |
| Dimethylamine [IV] (CAT1 C350.16) | 80,000.00 | Argentina, South Korea | Restriction on end users |
| Sodium cyanide [V] (CAT1 C350.45) | 4,549,380.00 | Burkina Faso, Eritrea | Restriction on end users |
| Sodium cyanide (CAT1 C350.45) | 402,600.00 | Burkina Faso | Restriction to 1 end user |

I Frequencies higher than 2 x $10^8$ Hz but lower than 3 x $10^{12}$ Hz.

II Fluorocarbon electronic cooling fluids with at least 85 percent by weight of perfluoroalkylamines (C006.d.1.b) and perfluorocycloalkanes (C006.d.1.c).

III Materials and devices for reduced observables such as radar reflectivity, ultra-violet/infrared signatures and acoustic signatures, other than those specified in 1C001, usable in missiles, missile subsystems or unmanned aerial vehicles specified in 9A012.

IV Dimethylamine is a colourless, flammable gas which can be used for the manufacture of chemical weapons (such as the nerve gas Tabun).

V Sodium cyanide is a very poisonous, colourless sodium salt, the uses of which include the mining industry, but which can also be used for the manufacture of chemical weapons (such as Sarin gas).

| | | | |
|---|---|---|---|
| Sodium cyanide (CAT1 C350.45) | 13,420,000.00 | Egypt, Ethiopia, Ghana, Mauritania, Namibia, South Africa | Restriction on end users |
| Sodium cyanide (CAT1 C350.45) | 6,710,000.00 | Botswana, Zimbabwe | Restriction on end users |
| Symmetric algorithm employing a key length in excess of 56 bits [I] (CAT5 A002.a.1.a) | 36,970.00 | Algeria | Restriction on end users |
| Symmetric algorithm employing a key length in excess of 56 bits (CAT5 A002.a.1.a) and software for information security (CAT5 D002) | 2,000,000.00 | Pakistan | Restriction on end users |
| Symmetric algorithm employing a key length in excess of 56 bits (CAT5 A002.a.1.a) and software for information security (CAT5 D002.c) | 5,000,000.00 | Belize, Botswana, Brunei, Burkina Faso, Indonesia, Ivory Coast, Lebanon, Yemen, Zimbabwe | Restriction on end users |
| Symmetrisch algoritme met een sleutellengte van meer dan 56 bits (CAT5 A002.a.1.a) en programmatuur voor informatiebeveiliging (CAT5 D002.c.1) | 10,000,000.00 | Egypt, Lebanon | Restriction on end users |

## 4.2.3 The destination of dual-use items

In this section we shall review the destinations of dual-use items for which individual and global export licences were issued in 2010.

### 4.2.3.1 1.1.1.1 Nuclear materials (CAT0)

In 2010, 8 ***individual licences*** were issued for the export of "nuclear materials" (CAT0). As in previous years, these licences - with a combined value of EUR 845,659 - related to the export of manufacturing equipment for nuclear reactors, and the export of nuclear materials. More specifically, they involved individual export licences for:

- plant specially designed for the fabrication of nuclear reactor fuel elements and specially designed or prepared equipment therefor (B005), destined for Russia
- special fissile materials (C002), destined for India and South Korea
- deuterium/heavy water [II] (C003), destined for Belarus
- a combination of natural/depleted uranium or thorium (C001) and special fissile materials (C002), for Taiwan and India

I Systems, equipment, compounds, modules or integrated circuits for specific applications for information security, designed or adapted for the use of cryptography with use of digital techniques for the execution of cryptographic functions, with the exception of authentication and digital signatures.

II Deuterium is an isotope of hydrogen with a deuteron as a nucleus. Heavy water (deuterium oxide) can be used in nuclear power plants for the fission of uranium, but can also be used for the production of hydrogen bombs.

***Table 7:*** *Number and value of individual export licences for CATO to 'other' countries, by subcategory, 2010*

| Subcategory of CATO | Number | Value | Destination |
|---|---|---|---|
| ***A: Systems, equipment and components*** | ***0*** | **–** | |
| ***B: Test, inspection and production equipment*** | ***1*** | ***834,755.72*** | |
| - Plant specially designed for the fabrication of nuclear reactor fuel elements and specially designed or prepared equipment therefor (B005) | 1 | 834,755.72 | Rusland |
| ***C: Materials*** | ***7*** | ***10,903.41*** | |
| - Special fissile materials (C002) [I] | 2 | 3,790.00 | India, South Korea |
| - Deuterium (C003) [II] | 3 | 1,653.41 | Belarus |
| - Natural uranium, depleted uranium or certain forms of thorium (C001) and special fissile materials (C002) | 2 | 5,460.00 | India and Taiwan |
| ***D: Software*** | ***0*** | **–** | |
| ***E: Technology*** | ***0*** | **–** | |
| **Total** | **8** | **845.659,13** | |

Two ***global licences*** were also issued for the export of deuterium/heavy water (C003). One of these global licences had 15 recipient countries worldwide, while the other allowed these materials to be exported to all civil end users in Malaysia. In these two licences no restrictions were imposed by the Flemish Government with respect to the end users. The deuterium/heavy water was thus allowed to be exported to all civil recipients in these 16 recipient countries.

***Table 8:*** *Number and value of global licences for CATO exports to 'other' countries, by sub-category, 2010*

| Sub-category of CATO | Number | Value | Destination |
|---|---|---|---|
| ***A: Systems, equipment and components*** | ***0*** | **–** | |
| ***B: Test, inspection and production equipment*** | ***0*** | **–** | |
| ***C: Materials*** | ***2*** | ***105,000.00*** | |
| - Deuterium, heavy water (deuterium oxide) and other compounds of deuterium, and mixtures and solutions containing deuterium (C003) | 2 | 105,000.00 | Malaysia and 15 other countries[III] |
| ***D: Software*** | ***0*** | **–** | |
| ***E: Technology*** | ***0*** | **–** | |
| **Total** | **2** | **105,000.00** | |

I The fissile materials plutonium-239, uranium-233, "uranium enriched in the isotopes 235 or 233", and any material containing the foregoing belongs to these categories.

II Deuterium, heavy water (deuterium oxide) and other compounds of deuterium, and mixtures and solutions containing deuterium.

III Algeria, Brazil, China, Hong Kong, India, Morocco, Montenegro, Russia, Serbia, Singapore, South Africa, South Korea, Taiwan, Tunisia, and Turkey

#### 4.2.3.2 Special materials and related equipment (CAT1)

69 licences were issued in 2010 for the export of "special materials and related equipment" (CAT1).

Among these, 36 ***individual licences*** were issued for the export of such dual-use items. They involved the export of a fairly broad range of materials and comprised licences for the export of:

- materials specially designed for use as absorbers of electromagnetic waves (C001.a), destined for India and Turkey
- materials and devices for reduced observables (C101), destined for India, Turkey and the U.A.E.
- specific lubricating materials (C006.b.1), destined for Iran
- 7 types of chemicals which may be used as precursors for toxic chemical agents, for recipients in eight countries including Israel, India and the Ukraine
- certain bacteria (C354.b), destined for Iran and South Korea
- methyldiethanolamine (C450.b.8)[I] destined for eight countries including Iran and Libya
- combination beryllium (C230)[II], zirconium (C234)[III] and chemicals which may be used as precursors for toxic chemical agents (C350), destined for Syria.

In addition to these materials, individual licences were also issued for the export of specific inspection equipment (B001.f.1) destined for Russia, and body armour and protective garments, other than those manufactured to military standards or specifications or their equivalents in performance (A005), destined for Malaysia.

I Methyldiethanolamine is a precursor of a poisonous chemical. It is a clear, colourless to light yellow liquid, which is fully miscible with water and smells of ammonia

II Beryllium is a very poisonous chemical element and can be used for the development of nuclear weapons.

III Zirconium is a chemical element which can be used for atmospheric tests with nuclear weapons

***Table 9:*** *Number and value of individual licences for CAT1 exports to 'other' countries, by sub-category, 2010*

| Sub-category of CAT1 | Number | Value | Destination |
|---|---|---|---|
| ***A: Systems, equipment and components*** | ***1*** | ***5,340.00*** | |
| - Body armour and specially designed components therefor (A005)[I] | 1 | 5,340.00 | Malaysia |
| ***B: Test, inspection and production equipment*** | ***2*** | ***760,000.00*** | |
| - Non-destructive inspection equipment specially designed for composite materials (B001.f.1)[II] | 2 | 760,000.00 | Russia |
| ***C: Materials*** | ***32*** | ***11,872,050.91*** | |
| - Materials specially designed for use as absorbers of electro-magnetic waves (C001.a)[III] | 4 | 309,120.20 | India (x2), Turkey (x2) |
| - Lubricating materials (C006.b.1)[IV] | 1 | 5,871.67 | Iran |
| - Materials for reduced observables (C101)[V] | 4 | 302,003.37 | India, Turkey (x2) and U.A.E. |
| - Phosphorus oxychloride (C350/2) | 1 | 85,000.00 | India |
| - Thionyl chloride (C350/9) | 1 | 151.68 | Ukraine |
| - Hydrogen fluoride (C350/24) | 1 | 29,861.19 | Saudi Arabia |
| - Sodium fluoride (C350/43) | 2 | 6,030.00 | DRC and Ivory Coast |
| - Sodium cyanide (C350/45) | 1 | 1,262.50 | Ivory Coast |
| - Triethanolamine (C350/46) | 4 | 130,898.60 | DRC, Israel, Nigeria and Saudi Arabia |
| - Sodium sulphide (C350/50) | 1 | 179.00 | Jordan |

I Body armour and specially designed components therefor, other than those manufactured to military standards or specifications or their equivalents in performance.

II Non-destructive inspection equipment specially designed for composite materials, as follows:
- X-ray tomography systems for three dimensional defect inspection;
- Numerically controlled ultrasonic testing machines of which the motions for positioning transmitters or receivers are simultaneously coordinated and programmed in four or more axes to follow the three dimensional contours of the component under inspection.

III Materials for absorbing frequencies exceeding $2 \times 10^8$ Hz but less than $3 \times 10^{12}$ Hz.

IV Lubricant materials containing, as their principal ingredients, phenylene or alkylphenylene ethers or thio-ethers, or their mixtures, containing more than two ether or thio-ether functions or mixtures thereof.

V Zoals bijvoorbeeld radarreflectie, ultraviolet/infrarood of akoestisch beeld.

| Sub-category of CAT1 | Number | Value | Destination |
|---|---|---|---|
| - Certain bacteria (C354.b)[I] | 2 | 714.00 | Iran and South Korea |
| - Methyldiethanolamine (C450.b.8) | 10 | 11,000,958.70 | Algeria, Iran, Kuwait, Libya, Nigeria (x3), Taiwan, Turkmenistan and Yemen |
| ***D: Software*** | ***0*** | **–** | |
| ***E: Technology*** | ***0*** | **–** | |
| ***Combination*** | ***1*** | ***912.94*** | |
| - Combination of beryllium (C230)[II], zirconium (C234)[III] and chemicals which may be used as precursors for toxic chemical agents (C350) | 1 | 912.94 | Syrië |
| **Total** | **36** | **12,638,303.85** | |

For the export of "special materials and related equipment" a remarkably large number of ***global licences*** were issued. These 34 global licences also had a high total value, at EUR 143.0 million. They are listed in Table 10.

***Table 10:*** *Number and value of global licences for CAT1 exports to 'other' countries, by subcategory, 2010*

| Subcategory of CAT1 | Number | Value | Destination |
|---|---|---|---|
| ***A: Systems, equipment and components*** | ***0*** | **–** | |
| ***B: Test, inspection and production equipment*** | ***0*** | **–** | |
| ***C: Materials*** | ***29*** | ***109,971,548.74*** | |
| - Materials specially designed for use as absorbers of electro-magnetic waves (C001.a)[IV] | 6 | 900,000.00 | Hong Kong (x4), Japan, Russia, Singapore, South Africa, Turkey and Ukraine |

I Bacteria, whether natural, enhanced or modified, either in the form of "isolated live cultures" or as material including living material which has been deliberately inoculated or contaminated with such cultures, as follows:
1. Xanthomonas albilineans;
2. Xanthomonas campestris pv. citri., including the strains referred to as Xanthomonas campestris pv. citri types A, B, C, D, E or otherwise classified as Xanthomonas citri, Xanthomonas campestris pv. aurantifolia or Xanthomonas campestris pv. citrumelo;
3. Xanthomonas oryzae pv. Oryzae (Pseudomonas campestris pv. Oryzae);
4. Clavibacter michiganensis subsp. Sepedonicus (Corynebacterium michiganensis subsp. Sepedonicum of Corynebacterium Sepedonicum);
5. Ralstonia solanacearum Races 2 and 3 (Pseudomonas solanacearum Races 2 and 3 or Burkholderia solanacearum Races 2 and 3).

II Beryllium metal, alloys containing more than 50% beryllium by weight, beryllium compounds, manufactures thereof, and waste or scrap of any of the foregoing.

III Zirconium with a hafnium content of less than 1 part hafnium to 500 parts zirconium by weight, as follows: metal, alloys containing more than 50% zirconium by weight, compounds, manufactures thereof, and waste or scrap of any of the foregoing.

IV Materials for absorbing frequencies exceeding $2 \times 10^8$ Hz but less than $3 \times 10^{12}$ Hz.

| | | | |
|---|---|---|---|
| - Fluorocarbon electronic cooling fluids (C006.d)[I] | 5 | 34,594,959.74 | Croatia, Israel, Russia, Singapore [II] and South Korea |
| - Materials for reduced observables (C101)[III] | 2 | 390,000.00 | Hong Kong and India |
| - Dimethylamine (C350/16) | 1 | 80,000.00 | Argentina and South Korea |
| - Sodium cyanide (C350/45) | 8 | 54,297,320.00 | 16 countries[IV] |
| - Combination of dimethylamine (C350/16) and dimethylamine hydrochloride (C350/20) | 1 | 4,400,000.00 | 34 countries[V] |
| - Combination of potassium cyanide (C350/40) and sodium cyanide (C350/45) | 2 | 5,763,019.04 | Taiwan and Turkey |
| - Aflatoxins (C351.d.11) | 1 | 26,250.00 | South Africa |
| - Methyldiethanolamine (C450.b.8) | 2 | 9,520,000.00 | 39 countries[VI] |
| ***D: Software*** | ***0*** | **–** | |
| ***E: Technology*** | ***0*** | **–** | |
| ***Combination*** | ***5*** | ***32,965,000.00*** | |
| - Combination of triethanolamine (C350/46) and methyldiethanolamine (C450.b.8) | 2 | 32,845,000.00 | 11 countries[VII] |
| ***- Other combinations*** | ***3*** | ***120,000.00*** | 15 countries[VIII] |
| **Total** | **33** | **142,936,548.78** | |

I Fluorocarbon electronic cooling fluids having all of the following:
1. Containing 85% by weight or more of any of the following, or mixtures thereof:
   a. perfluorpolyalkylether-triazines or perfluoroaliphatic-ethers
   b. perfluoroalkylamines
   c. perfluorocycloalkanes
   d. perfluoroalkanes
2. Density at 298 K (25 °C) of 1.5 g/ml or more
3. In a liquid state at 273 K (0 °C); and
4. Containing 60% or more by weight of fluorine

II The countries of end use for licence to Singapore were: China, Hong Kong, Indonesia, Malaysia, Philippines, Singapore, South Korea, Taiwan and Thailand.

III For example radar reflectivity, ultraviolet/infrared or acoustic signatures.

IV Bolivia, Botswana, Burkina Faso (x2), Chile, Egypt, Eritrea, Ethiopia, Ghana, Greenland, Mauritania, Mexico, Namibia, Peru, Russia, South Africa and Zimbabwe.

V Argentina, Bolivia, Brazil, Brunei, Chile, China, Colombia, Costa Rica, Cuba, Ecuador, India, Indonesia, Israel, Malaysia, Morocco, Mexico, Nicaragua, Paraguay, Philippines,Russia, Saudi Arabia, Singapore, Serbia-Montenegro, Singapore, South Africa, South Korea, Taiwan, Thailand, Tunisia, Turkey, Ukraine, Uruguay, Venezuela and Vietnam.

VI Algeria, Argentina, Bahrain (x2), Bolivia, Brazil, Brunei, Chile, China, Colombia, Cuba, Ecuador, India, Indonesia, Libya, Mexico, Montenegro, Netherlands Antilles, Oman, Paraguay, Peru, Philippines,Qatar (x2), Russia (x2), Saudi Arabia (x2), Serbia, Singapore, South Africa, South Korea, Switzerland, Thailand, Trinidad and Tobago, Tunisia, Turkey, Ukraine, Uruguay, U.A.E., U.S. Virgin Islands, Venezuela and Vietnam.

VII Algeria, India, Kazakhstan, Kuwait, Malaysia, Qatar, Russia, Turkey (x2), U.A.E., Ukraine and South Korea.

VIII This relates to licences for:
- the combination of C011, C111, C117, C231, C350, C351 and C450 (EUR 40,000) destined for Algeria, Brazil, China, Morocco, Montenegro, Russia, Serbia, South Africa, South Korea, Singapore, Tunisia and Turkey;
- the combination of C111, C231, C350 and C351 (EUR 45,000) destined for Hong Kong and Taiwan;
- the combination of C011, C111, C117, C350, C351 and C450 (EUR 35,000) destined for India.

A restriction on end users was imposed in 14 of the 34 global licences for special materials and related equipment, as follows:

- the six licences for the export of materials specially designed for use as absorbers of electromagnetic waves (C001.a). They included the four global licences for these materials destined for Hong Kong that had end users in a third country: three in China and one in Australia.
- the two licences for the export of materials for reduced observables (C101) to Hong Kong and India
- the licence for dimethylamine (C350/16) to Argentina and South Korea
- the four licences for sodium cyanide (350/45) to 16 recipient countries
- the licence for fluorocarbons (C006.d.1.b and C006.d.1.c) to Israel.

#### 4.2.3.3 Materials processing (CAT2)

In 2010, 18 licences were issued for the export of products for "materials processing" (CAT2).

With one exception all licences issued for this type of dual-use items were ***individual licences***. Seven licences related to components of chemical manufacturing equipment. They consisted of licences with a combined value of EUR 1.6 million for:

- distillation or absorption columns made from nickel (B350.e.5) and zirconium (B350.e.8), for a recipient in China
- valves made from fluoropolymers (B350.g.2), destined for Russia and Indonesia
- valves made from nickel (B350.g.4), for a recipient in Malaysia
- pumps made from fluoropolymers (B350.i.4), for a recipient in Malaysia

Individual licences were also issued for:

- machine tools for turning (B001.a), for a recipient in Mexico
- test systems, equipment and components therefor (B116) and accompanying software (D101), for specific recipients in Russia, South Africa and Turkey.
- software specially designed or modified for the use of materials processing equipment (D101), for a recipient in India and a recipient in Turkey

The one ***global licence*** issued in 2010 also related to the export of components of chemical manufacturing equipment - specifically, certain distillation and/or absorption columns - destined for 27 possible recipient countries (with a maximum value of EUR 5 million), and did not restrict the end users

***Table 11:*** *Number and value of individual licences for CAT2 exports to 'other' countries, by sub-category, 2010*

| Sub-category of CAT2 | Number | Value | Destination |
|---|---|---|---|
| ***A: Systems, equipment and components*** | ***0*** | **–** | |
| ***B: Test, inspection and production equipment*** | ***8*** | ***1,847,170.36*** | |
| - Machine tools for turning (B001.a) [I] | 1 | 290,000.00 | Mexico |
| - Distillation or absorption columns made from nickel (B350.e.5) and zirconium (B350.e.8) [II] | 1 | 1,300,000.00 | China |
| - Valves made from fluoropolymers (B350.g.2) [III] | 4 | 14,920.36 | Indonesia and Russia (x3) |
| - Valves made from nickel (B350.g.4) [IIII] | 1 | 42,250.00 | Malaysia |
| - Pumps made from fluoropolymers (B350.i.4) [IV] | 1 | 200,000.00 | Malaysia |
| ***C: Materials*** | ***0*** | **–** | |
| ***D: Software*** | ***2*** | ***42,649.00*** | |
| - Software specially designed or modified for the use of materials processing equipment (D101) [VI] | 2 | 42,649.00 | India and Turkey |
| ***E: Technology*** | ***0*** | **–** | |
| ***Combination*** | ***7*** | ***580,560.54*** | |
| Vibration test systems, equipment and components therefor (B116) [VII] and accompanying software (D101) | 7 | 580,560.54 | India, Russia (x3), South Africa (x2) and-Turkey |
| **Total** | **17** | **2,470,379.90** | |

I Machine tools and any combination thereof, for removing (or cutting) metals, ceramics or composites which, according to the manufacturer's technical specification, can be equipped with electronic devices for numerical control, and specially designed components.

II This relates to distillation or absorption columns of internal diameter greater than 0.1m, and liquid distributors, vapour distributors or liquid collectors designed for such distillation or absorption columns, where all surfaces that come into direct contact with the chemical(s) being processed are made from nickel or alloys with more than 40% nickel by weight (B350.e.5) and made of zirconium or zirconium alloys (B350.e.8).

III This concerns valves with nominal sizes greater than 10 mm and casings (valve bodies) or preformed casing liners designed for such valves, in which all surfaces that come into direct contact with the chemical(s) being processed or contained are made from fluoropolymers (among other materials).

IV This concerns valves with nominal sizes greater than 10 mm and casings (valve bodies) or preformed casing liners designed for such valves, in which all surfaces that come in direct contact with the chemical(s) being processed or contained are made from nickel or alloys containing more than 40% nickel by weight (among other materials).

V This concerns multiple-seal and seal-less pumps, with manufacturer's specified maximum flow-rate greater than 0.6 m3/hour, or vacuum pumps with manufacturer's specified maximum flow-rate greater than 5 m3/hour under standard temperature (273 K (0 °C)) and pressure (101.3 kPa) conditions, and casings (pump bodies), preformed casing liners, impellers, rotors or jet pump nozzles designed for such pumps, in which all surfaces that come in direct contact with the chemical(s) being processed are made from fluoropolymers.

VI Software specially designed or modified for the use of equipment specified in 2B104, 2B105, 2B109, 2B116, 2B117 or 2B119 to 2B122.

VII This concerns:
a. vibration test systems employing feedback or closed loop techniques and incorporating a digital controller, capable of vibrating a system at an acceleration equal to or greater than 10g rms between 20 Hz and 2 kHz while imparting forces equal to or greater than 50 kN, measured 'bare table';
b. digital controllers, combined with specially developed vibration test software, with a 'real-time control band-width' greater than 5 kHz designed for use with vibration test systems specified in 2B116.a.

***Table 12:*** *Number and value of global licences for CAT2 exports to 'other' countries, by sub-category, 2010*

| Sub-category of CAT2 | Number | Value | Destination |
|---|---|---|---|
| ***A: Systems, equipment and components*** | **0** | **-** | |
| ***B: Test, inspection and production equipment*** | **1** | **5,000,000.00** | |
| - Distillation or absorption columns (B350.e)[I] | 1 | 5,000,000.00 | 27 countries [II] |
| ***C: Materials*** | **0** | **-** | |
| ***D: Software*** | **0** | **-** | |
| ***E: Technology*** | **0** | **-** | |
| ***Combination*** | **0** | **-** | |
| **Total** | **1** | **5,000,000.00** | |

### 4.2.3.4 Electronics (CAT 3)

In 2010, 6 ***individual licences*** were issued for the export of dual-use electronics (CAT3). In five cases this concerned the export of resists[III] for an Israeli recipient: four individual licences related to certain types of positive resists designed for semiconductor lithography (C002.a), and one licence related to resists optimised for surface imaging technologies (C002.d). Together these five licences covered exports of resists to a value of EUR 8.4 million.[IV] The last individual export licence concerned the export of electronic technology (E001) to a value of EUR 11.4 million, destined for a recipient in China.

I This relates to distillation or absorption columns of internal diameter greater than 0.1m, and liquid distributors, vapour distributors or liquid collectors designed for such distillation or absorption columns, where all surfaces that come into direct contact with the chemical(s) being processed are made from one or more of the materials described.

II Albania, Algeria, Bosnia-Herzegovina, Brunei, Egypt, Iceland, Indonesia, India, Jordan, Kuwait, Libya, Macedonia, Morocco, Montenegro, New Caledonia, Oman, Qatar, Russia, Saudi Arabia, Singapore, South Africa, South Korea, Taiwan, Tunisia, Turkey, Ukraine and Vietnam.

III Resists are products used in the development of electronic chips.

IV Licences were also issued in previous years for equivalent sums for the export of such products to Israel.

***Table 13:*** *Number and value of individual licences for CAT3 exports to 'other' countries, by sub-category, 2010*

| Sub-category of CAT3 | Number | Value | Destination |
|---|---|---|---|
| ***A: Systems, equipment and components*** | ***0*** | **–** | |
| ***B: Test, inspection and production equipment*** | ***0*** | **–** | |
| ***C: Materials*** | ***5*** | ***8,444,018.33*** | |
| - Certain types of positive resists designed for semiconductor lithography (C002.a)[I] | 4 | 7,515,200.00 | Israel |
| - Resists optimised for surface imaging technologies (C002.d)[II] | 1 | 928,818.33 | Israël |
| ***D: Software*** | ***0*** | **–** | |
| ***E: Technology*** | ***1*** | ***11,407,000.00*** | |
| - Technology (E001) | 1 | 11,407,000.00 | China |
| **Total** | **6** | **19,851,018.33** | |

In 2010 an additional two ***global licences*** were issued for the export of dual-use electronics. One was a global licence for positive resists for semiconductor lithography to all civil recipients in Russia. The other was a global licence for integrated circuits and related technology, with 27 possible recipient countries worldwide and no restriction on civil end users

I Positive resists designed for semiconductor lithography, specially adjusted (optimised) for use at wave lengths below 245 nm

II All resists optimised for surface imaging technologies, including silylated resists

***Table 14:*** *Number and value of global licences for CAT3 exports to 'other' countries, by sub-category, 2010*

| Sub-category of CAT3 | Number | Value | Destination |
|---|---|---|---|
| ***A: Systems, equipment and components*** | **0** | **-** | |
| ***B: Test, inspection and production equipment*** | **0** | **-** | |
| ***C: Materials*** | **1** | **167,750.00** | |
| - Certain types of positive resists designed for semiconductor lithography (C002.a)[I] | 1 | 167,750.00 | Russia |
| ***D: Software*** | **0** | **-** | |
| ***E: Technology*** | **0** | **-** | |
| ***Combination*** | **1** | **6,000,000.00** | |
| - Certain custom integrated circuits (A001.a.10) [II] and technology (E001) | 1 | 6,000,000.00 | 27 countries[III] |
| **Total** | **2** | **6,167,750.00** | |

### 4.2.3.5 Computers (CAT4)

As in previous years, no licences were issued in Flanders for dual-use items belonging to the category "computers" (CAT4) in 2010. This category of dual-use items includes, among others, certain very specialized computers and related software and technology.

### 4.2.3.6 Telecommunications and information security (CAT 5)

Various individual and global licences were issued by the Flemish Government in 2010 for the export of dual-use items belonging to the category "telecommunications and information security" (CAT5).

9 ***individual licences*** in total were issued for dual-use electronics in 2010, with a combined value of EUR 5.5 million. They comprised:

- a licence for cryptographic systems (A002.a.1), destined for Turkey
- three licences for the export of symmetric algorithms for cryptographic systems (A002.a.1.a) to Pakistan
- three individual licences for the export of software (D002.a) to Ivory Coast

I Positive resists designed for semiconductor lithography, specially adjusted (optimised) for use at wave lengths below 245 nm.

II Custom integrated circuits for which the function is unknown, or the control status of the equipment in which the integrated circuits will be used is unknown to the manufacturer, having any of the following:
a. more than 1,500 terminals
b. a typical "basic gate propagation delay time" of less than 0.02 ns; or
c. an operating frequency exceeding 3.0 GHz

III Algeria, Argentina, Brazil, China, Costa Rica, Croatia, Egypt, Hong Kong, India, Indonesia, Kuwait, Malaysia, Mexico, Peru, Philippines, Russia, Saudi Arabia, Serbia, Singapore, South Africa, South Korea, Taiwan, Tunisia, Turkey, Ukraine, Uruguay and Venezuela.

- one licence for specific software (D002.c.1) to Ivory Coast
- a licence for the export of symmetric algorithms for cryptographic systems (A002.a.1.a) and accompanying software (D002.c), destined for a recipient in Russia.

***Table 15:*** *Number and value of individual licences for CAT5 exports to 'other' countries, by sub-category, 2010*

| Sub-category of CAT5 | Number | Value | Destination |
|---|---|---|---|
| ***A: Systems, equipment and components*** | ***4*** | ***85,269.20*** | |
| - Systems, equipment and components designed or modified to use cryptography (A002.a.1) [I] | 1 | 25,000.00 | Turkey |
| - Symmetric algorithm employing a key length in excess of 56 bits (A002.a.1.a) | 3 | 60,269.20 | Pakistan |
| ***B: Test, inspection and production equipment*** | ***0*** | ***–*** | |
| ***C: Materials*** | ***0*** | ***–*** | |
| ***D: Software*** | ***4*** | ***5,226,236.52*** | |
| - Software (D002.a)[II] | 3 | 4,176,236.52 | Ivory Coast |
| - Specific software (D002.c.1)[III] | 1 | 1,050,000.00 | Ivory Coast |
| ***E: Technology*** | ***0*** | ***–*** | |
| ***Combination*** | ***1*** | ***152,303.00*** | |
| - Symmetric algorithm employing a key length in excess of 56 bits (A002.a.1.a) and accompanying specific software (D002.c) | 1 | 152,303.00 | Russia |
| **Total** | **9** | **5,463,808.72** | |

I Systems, equipment, application specific 'electronic assemblies', modules and integrated circuits for 'information security', designed or modified to use 'cryptography' employing digital techniques performing any cryptographic function other than authentication or digital signature.

II Software specially designed or modified for the development, production or use of equipment specified in 5A002 or software specified in 5D002.c.

III Specific software (D002.c), as follows:
1. Software having the characteristics, or performing or simulating the functions of the equipment, specified in 5A002
2. Software to certify software specified in 5D002.c.1

A remarkable number of ***global licences*** for dual-use items for information security were also issued in 2010. In total, 12 global licences with a combined value of EUR 323.1 million were issued in the past year. Like the individual licences, they covered the export of cryptographic systems and/or related software. Three licences had only one recipient country stated (Algeria, Pakistan and Russia, respectively). The other global licences had between 2 and 74 potential recipient countries:

Four licences contained restrictions on the end users of these information security products, specifically the licences for:

- symmetric algorithms for cryptographic systems (A002.a.1), with Algeria as recipient country
- symmetric algorithms for cryptographic systems (A002.a.1) and software (D002), with Pakistan as recipient country
- cryptographic systems (A002.a.1) and specific accompanying software (D002.c.1), with Egypt and Lebanon as recipient countries
- symmetric algorithms for cryptographic systems (A002.a.1) and accompanying software (D002.c), with 9 recipient countries.[I]

No restrictions on end users were imposed in the remaining 8 global licences. Thus, the Flemish exporters who received these global licences were able to export certain information security products to all civil recipients in more than 80 countries worldwide[II], including China, Kyrgyzstan, Libya and Russia.

I Belize, Botswana, Brunei, Burkina Faso, Indonesia, Ivory Coast, Lebanon, Vietnam and Yemen.

II Albania, Algeria, Andorra, Argentina, Armenia, Azerbaijan, Bahrain, Bangladesh, Bolivia, Bosnia-Herzegovina, Brazil, Brunei, Burkina Faso, Burundi, Cambodia, Chile, China, Colombia, Costa Rica, Croatia, Cuba, Dominican Republic, Ecuador, Egypt, El Salvador, Faroe Islands, French Polynesia, Georgia, Guatemala, Guyana, Hong Kong, Iceland, India, Indonesia, Jamaica, Jordan, Kazakhstan, Kenya, Kyrgyzstan, Kuwait, Lebanon, Libya, Liechtenstein, Macao, Macedonia, Maldives, Malaysia, Morocco, Mexico, Monaco, Montenegro, Netherlands Antilles, Nicaragua, Nigeria, New Caledonia, Oman, Panama, Papua New Guinea, Peru, Philippines, Puerto Rico, Qatar, Reunion, Russia, Saudi Arabia, Senegal, Serbia, Singapore, South Africa, South Korea, Sri Lanka, Suriname, Taiwan, Thailand, Togo, Trinidad and Tobago, Tunisia, Turkey, Ukraine, Uruguay, Venezuela, United Arab Emirates, Vietnam and Zambia.

***Table 16:*** *Number and value of global licences for CAT5 exports to 'other' countries, by sub-category, 2010*

| Sub-category of CAT5 | Number | Value | Destination |
|---|---|---|---|
| ***A: Systems, equipment and components*** | ***1*** | ***36,970.00*** | |
| - Symmetric algorithm employing a key length in excess of 56 bits (A002.a.1.a) | 1 | 36,970.00 | Algeria |
| ***B: Test, inspection and production equipment*** | ***0*** | ***–*** | |
| ***C: Materials*** | ***0*** | ***–*** | |
| ***D: Software*** | ***2*** | ***25,015,000.00*** | |
| - Specific software (D002.c.1)[I] | 2 | 25,015,000.00 | 15 countries[IV] |
| ***E: Technology*** | ***0*** | ***–*** | |
| ***Combination*** | ***9*** | ***298,000,000.00*** | |
| - Symmetric algorithm employing a key length in excess of 56 bits (A002.a.1.a) accompanying software (D002) | 1 | 2,000,000.00 | Pakistan |
| - Systems, equipment and components designed or modified to use cryptography (A002.a.1)[II] and specific software (D002.c.1)[III] | 1 | 10,000,000.00 | Egypt and Lebanon |
| - Symmetric algorithm employing a key length in excess of 56 bits (A002.a.1.a) and accompanying specific software (D002.c) | 7 | 286,000,000.00 | 88 countries[V] |
| **Total** | **12** | **323,051,970.00** | |

I Software having the characteristics, or performing or simulating the functions of the equipment, specified in 5A002

II Systems, equipment, application specific 'electronic assemblies', modules and integrated circuits for 'information security', designed or modified to use cryptography employing digital techniques performing any cryptographic function other than authentication or digital signature

III Software having the characteristics, or performing or simulating the functions of the equipment, specified in 5A002

IV Argentina, Brazil, Croatia, Georgia, Hong Kong, Iceland, Macedonia, Mexico, Russia, Singapore, Taiwan, Turkey,Ukraine, South Africa and South Korea

V Albania, Algeria, Andorra, Argentina, Armenia, Azerbaijan, Bahrain, Bangladesh, Belize, Bolivia, Bosnia-Herzegovina, Botswana, Brazil, Brunei, Burkina Faso, Burundi, Cambodia, Chile, China, Colombia, Costa Rica, Croatia, Cuba, Dominican Republic, Ecuador, Egypt, El Salvador, Faroe Islands, French Polynesia, Georgia, Guatemala, Guyana, Hong Kong, Iceland, India, Indonesia, Ivory Coast, Jamaica, Yemen, Jordan, Kazakhstan, Kenya, Kyrgyzstan, Kuwait, Lebanon, Libya, Liechtenstein, Macao, Maldives, Malaysia, Morocco, Macedonia, Mexico, Monaco, Montenegro, Netherlands Antilles, New Caledonia, Nicaragua, Nigeria, Oman, Panama, Papua New Guinea, Peru, Philippines, Puerto Rico, Qatar, Reunion, Russia, Saudi Arabia, Senegal, Serbia, Singapore, South Africa, South Korea, Sri Lanka, Suriname, Taiwan, Thailand, Togo, Tunisia, Turkey, Uruguay, Venezuela, Ukraine, United Arab Emirates, Vietnam and Zambia.

### 4.2.3.7 Sensors and lasers (CAT6)

In 2010, 10 ***individual licences***, with a combined value of EUR 1.4 million, were issued for the export of systems, equipment and components of sensors and lasers (CAT6):

- seven licences concerned the export of *focal plane arrays* [I] (A002.a.1.d). Hong Kong was the recipient country for these products in six cases, but the end user was situated in a third country (South Korea, China and Taiwan). In the case of one licence the products were directly destined for a user in India.
- two licences were issued for imaging cameras with focal plane arrays (A003.b.4.a), for a recipient in Taiwan and Saudi Arabia.
- one licence related to a certain type of lasers (A005.a.6.b),destined for a user in India.

***Table 17:*** *Number and value of individual licences for CAT6 exports to 'other' countries, by sub-category, 2010*

| Sub-category of CAT6 | Number | Value | Destination |
|---|---|---|---|
| ***A: Systems, equipment and components*** | ***10*** | ***1,441,176.78*** | |
| - Focal plane arrays (A002.a.1.d)[II] | 7 | 885,220.78 | Hongkong (x6)[III] and India |
| - Imaging cameras incorporating focal plane arrays (A003.b.4.a)[IV] | 2 | 376,256.00 | Taiwan and Saudi Arabia |
| - Certain type of lasers (A005.a.6.b)[V] | 1 | 179,700.00 | India |
| ***B: Test, inspection and production equipment*** | ***0*** | – | |
| ***C: Materials*** | ***0*** | – | |
| ***D: Software*** | ***0*** | – | |
| ***E: Technology*** | ***0*** | – | |
| **Total** | **10** | **1,441,176.78** | |

In addition to these individual licences, in 2010 one ***global licence*** was issued for sensors and lasers. The Flemish exporter received permission from the government to export imaging cameras incorporating focal plane arrays (A003.b.4.b) to a maximum value of EUR 15 million to all civil recipients in 7 recipient countries.

I Focal plane arrays are a type of receiver used for thermal imaging cameras.

II For use in the space-qualified focal plane arrays having more than 2,048 elements per array and having a peak response in a wavelength range exceeding 300 nm but not exceeding 900 nm.

III The end use countries for licences to Hong Kong are: China (x2), Taiwan (x1) and South Korea (x3).

IV Imaging cameras incorporating focal plane arrays specified in 6A002.a.3.a.to 6A002.a.3.e.

V Non-tunable continuous wave (CW) lasers with an output wavelength exceeding 975 nm but not exceeding 1,150 nm and with multiple transverse mode output, having any of the following:
1. 'wall-plug efficiency' exceeding 18% and output power exceeding 500W; or
2. output power exceeding 2 kW

***Table 18:*** *Number and value of global licences for CAT6 exports to 'other' countries, by sub-category, 2010*

| Sub-category of CAT6 | Number | Value | Destination |
|---|---|---|---|
| ***A: Systems, equipment and components*** | ***1*** | ***15,000,000.00*** | |
| - Imaging cameras incorporating focal plane arrays (A003.b.4.b)[1] | 1 | 15,000,000.00 | Argentina, Brazil, Russia, South Africa, South Korea, Turkey and Ukraine |
| ***B: Test, inspection and production equipment*** | ***0*** | ***–*** | |
| ***C: Materials*** | ***0*** | ***–*** | |
| ***D: Software*** | ***0*** | ***–*** | |
| ***E: Technology*** | ***0*** | ***–*** | |
| **Total** | **1** | **15,000,000.00** | |

### 4.2.3.8 Navigation and avionics (CAT7)

Licences for the export of dual-use items concerning navigation and avionics rather rarely occur in Flanders. In 2010 only one licence was issued for these products. As in 2009, it was an ***individual licence*** for the export of global navigation satellite systems receiving equipment and/or accompanying components (A105), for a recipient in South Korea.

***Table 19:*** *Number and value of individual export licences for CAT7 to 'other' countries, by subcategory, 2010*

| Subcategory of CAT7 | Number | Value | Destination |
|---|---|---|---|
| ***A: Systems, equipment and components*** | ***1*** | ***5,000.00*** | |
| - Global navigation satellite systems receiving equipment and specific components (A105) | 1 | 5,000.00 | South Korea |
| ***B: Test, inspection and production equipment*** | ***0*** | ***–*** | |
| ***C: Materials*** | ***0*** | ***–*** | |
| ***D: Software*** | ***0*** | ***–*** | |
| ***E: Technology*** | ***0*** | ***–*** | |
| **Total** | **1** | **5,000.00** | |

In 2010 as in previous years, no ***global licences*** for navigation and avionics were issued by the Flemish Government.

1 Imaging cameras incorporating focal plane arrays specified in 6A002.a.3.f.

#### 4.2.3.9 Marine (CAT8)

As in previous years, no licences were issued in Flanders in 2010 for dual-use items belonging to the category "marine" (CAT8). Examples of dual-use items belonging to this category include different types of submersible vehicles and related equipment and components.

#### 4.2.3.10 Aerospace and propulsion (CAT9)

In contrast to 2009, no licences were issued in Flanders in 2010 for dual-use items belonging to the category "aerospace and propulsion" (CAT9).[1] This category of dual-use items includes, for example, space launch vehicles, different types of gas turbines and rocket engines, different types of rocket propulsion systems, and certain types of unmanned aerial vehicles.

### 4.2.4 Licences based on the catch-all clause of Regulation (EC) 428/2009

In addition to the export of products listed in Annex I to Regulation (EC) 248/2009, Article 4 of this regulation also provides for a catch-all clause. In three clearly defined situations, a licence is also required for the export of 'free' products, specifically:

- if the exporter has been informed by the competent authorities of the Member State in which he is established that the items in question are or may be intended, in their entirety or in part, for use in connection with the development, production, handling, operation, maintenance, storage, detection, identification or dissemination of chemical, biological or nuclear weapons or other nuclear explosive devices or the development, production, maintenance or storage of missiles capable of delivering such weapons (Article 4.1)

- if the purchasing country or country of destination is subject to an arms embargo decided by a common position or joint action adopted by the Council, or a decision of the Organisation for Security and Cooperation in Europe (OSCE), or an arms embargo imposed by a binding resolution of the Security Council of the United Nations; and if the exporter has been informed by the authorities referred to in paragraph 1 that the items in question are or may be intended, in their entirety or in part, for a military end-use (Article 4.2)

- if the exporter has been informed by the authorities referred to in paragraph 1 that the items in question are or may be intended, in their entirety or in part, for use as parts or components of military items listed in the national military list that have been exported from the territory of that Member State without authorisation or in violation of an authorisation prescribed by national legislation of that Member State (Article 4.3)

1 In 2009 one licence was issued for the export of space launch vehicles (A004) to Russia to the value of EUR 10.9 million.

In 2010 the Flemish Government issued six individual licences, with a total value of EUR 5.2 million, on the basis of this catch-all clause from Regulation (EC) 428/2009. In contrast to the previous years, they did not relate only to the export of products to Iran. Besides four catch-all licences for Iran, two catch-all licences were also issued for the export of unspecified products to the United Arab Emirates (with India as country of end use), and to South Africa, respectively.

***Table 20:*** *Overview of export licences for dual-use items based on Article 4 of Regulation (EC) 428/2009, 2010*

| Recipient country | Number | Value |
|---|---|---|
| Iran | 4 | 5,143,061.40 |
| United Arab Emirates (country of end use: India) | 1 | 50,000.00 |
| South Africa | 1 | 46,880.00 |
| **Total** | **6** | **5,239,941.40** |

It is important to stress that three cases of exports to Iran, which were also subject to licensing under the catch-all clause, were denied a licence by the Flemish Government (see Section 4.4).

# 4.3
# Additional restrictions with respect to Iran (Regulations EC 423/2007 and EU 961/2010)

In 2010, 3 licences were issued in Flanders for the export of goods listed in Annex IV to Regulation (EC) 428/2009. Specifically, they concerned individual licences for the export of specific lubricating materials (CAT1 C006.b1) [I] to a value of EUR 5,871.67, bacteria (CAT1 C354.b) to a value of EUR 546, and methyldiethanolamine [II] (CAT1 C450.b.8) to a value of EUR 698,000. For exports to Iran, in addition to Regulation (EC) 428/2009, Flemish companies must also take into account Regulation (EU) 961/2010 (formerly: Regulation (EC) 423/2007) in which additional dual-use items are targeted. This section will review the licences issued or denied in 2010 on the basis of Regulations (EC) 423/2007 and (EU) 961/2010.

## 4.3.1 Legal framework

Various sanctions have been imposed on Iran by the international community in recent years to prevent the development of nuclear weapons. Fields of business affected by these restrictions include investments, the transfer of capital, financial services and the maritime and aviation sectors. In addition, a number of export and import restrictions have been imposed relating to military materials and dual-use items. Council Regulation (EC) 423/2007 of 19 April 2007, concerning restrictive measures against Iran, prohibited the export of certain products[III] to Iran and established a licensing requirement for a range of other products and technologies.[4] The licences issued on the basis of Regulation ***(EC) 423/2007*** in Flanders relate to the export of products and/or technology *"which could contribute to Iran's enrichment-related, reprocessing, or heavy water-related activities, to the development of nuclear weapon delivery systems, or to the pursuit of activities related to other topics about which the International Atomic Energy Agency (IAEA) has expressed concerns or identified as outstanding"*.[5]

In October 2010 the restrictions with respect to Iran were further strengthened. Following UN Security Council Resolution 1929, the Council of the European Union introduced additional restrictions against Iran in Regulation ***(EU) 961/2010.*** This regulation is directly applicable in the EU Member States and replaces Regulation (EC) 423/2007. On the basis of Regulation (EU) 961/2010, direct and indirect trade with Iran - among other countries - is prohibited as regards:

I Lubricating materials containing, as their principal ingredients, phenylene or alkylphenylene ethers or thio-ethers, or their mixtures, containing more than two ether or thio-ether functions or mixtures thereof.

II Methyldiethanolamine is a precursor of a poisonous chemical. It is a clear, colourless, light yellow liquid, which is fully miscible with water and smells of ammonia.

III Including all materials and technology in the lists of the Nuclear Suppliers Group and the Missile Technology Control Regime.

- all dual-use items and technology listed in Annex I to Regulation (EC) 428/2009 (with the exception of CAT5)
- all goods and technology which could contribute to enrichment-related, reprocessing or heavy water-related activities, or to the development of nuclear weapon delivery systems. These goods are listed in Annex II to Regulation (EU) 961/2010.

Further, Regulation (EU) 961/2010 also creates a licensing obligation for the export of goods listed in Annex IV to that Regulation. They involve products and technology which can directly or indirectly contribute to:

- enrichment-related, reprocessing or heavy water-related activities
- the development of nuclear weapon delivery systems
- the performance of activities related to other topics about which the IAEA has expressed concerns or identified as outstanding

The offer of technical assistance or brokering services for goods from Annex I and Annex IV to Regulation (EU) 961/2010 are also prohibited, and subject to licensing, respectively.

### 4.3.2 Licences issued

In 2010 one licence was issued on the basis of Regulation (EC) 423/2007, relating to the export of "pipes, piping, flanges and fittings made of nickel" (II.A2.010).[I] This was a significant reduction from 2009 when nine export licences were issued on the basis of this regulation.[II]

One export request was also denied in 2010 on the basis of Regulation (EC) 423/2007 (see Section 4.4).

I This in particular concerns "pipes, piping, flanges ,fittings made of, or lined with nickel or nickel alloy containing more than 40% nickel by weight, other than those specified in 2B350.h.1.

II The export licences issued in 2009 on the basis of Regulation 423/2007 all related to seals and gaskets made of specific materials, such as viton fluoro-elastomers or polytetrafluoroethylene.

# 4.4
# Denied licence applications

In 2010, 9 applications for the export of dual-use items were denied by the Flemish Government, significantly more than in the previous years. The licences denied in 2010 had a combined value of approximately EUR 607,000.

***Table 21:*** *Overview of number and value of licences denied for dual-use exports, 2010*

| Year | Number of denied licence applications | Value of denied licence applications |
|---|---|---|
| 2007 | 4 | 504,306.00 |
| 2008 | 2 | 702,007.90 |
| 2009 | 3 | 557,321.24 |
| 2010 | 9 | 607,009.14 |

No licence application for the transfer or export of dual-use items to the EU Member States or to 'friendly' countries was denied by the Flemish Government.

In 2010 four licence applications, with a combined value of approximately EUR 136,000, for export to Iran were denied. These concerned licence applications related to goods not appearing on the list of products subject to licensing in the Annex of Regulation (EC) 428/2009. In one case, the licence was denied on the basis of the EU Regulation that imposes additional restrictions with respect to Iran in view of the country's suspected ambitions to develop nuclear weapons (Regulation (EC) 423/2007). This request was for an export of seals and gaskets made of special materials, with a value of approximately EUR 92,000. The other cases involved three licences required on the basis of the catch-all clause included in Regulation (EC) 428/2009 for 'free' products which are or may be intended, in their entirety or in part, for use in connection with the development, production or use of weapons of mass destruction (Article 4).[I] The licence applications were for goods with a combined value of approximately EUR 44,000, but the specific products this related to are not indicated in the Flemish Government's report. In previous years a number of exports to Iran were denied by the Flemish Government, including denials on the basis of the catch-all clause in Regulation (EC) 1334/2000 (the forerunner to the catch-all clause from the present Regulation (EC) 428/2009) applying to 'free' items that may be used for the development, production or use of biological, chemical and nuclear weapons (Article 4.1).[II]

I Article 4.1 states that for the export of dual-use items not listed in Annex I, an authorisation shall be required if the exporter has been informed by the competent authorities of the Member State in which he is established that the items in question are or may be intended, in their entirety or in part, for use in connection with the development, production, handling, operation, maintenance, storage, detection, identification or dissemination of chemical, biological or nuclear weapons or other nuclear explosive devices or the development, production, maintenance or storage of missiles capable of delivering such weapons.

II In 2007 and 2008 two licences were repeatedly denied on the basis of this clause, and in 2009 one licence was denied.

***Table 22:*** *Overview of licences denied for exports of dual-use items to 'other' countries, 2010*

| Recipient country | Nature of the items | Value |
|---|---|---|
| Hong Kong (China) | Optical detectors for use in space-qualified solid state detectors having a peak response in the wavelength range exceeding 1,200 nm but not exceeding 30,000 nm (CAT6 A002.a.1.c) | 34,910.79 |
| India | Construction materials and/or surface coatings for reduced observables, usable in missiles, missile subsystems or unmanned aerial vehicles (CAT1 C101) | 200,000.00 |
| India | Construction materials and/or surface coatings for reduced observables, usable in missiles, missile subsystems or unmanned aerial vehicles (CAT1 C101) | 150,000.00 |
| Iran | Seals and gaskets (Regulation (EC) 423/2007, II.A.1.003) | 92,209.16 |
| Iran | Catch-all (Regulation (EC) 428/2009, Article 4) | 37,911.00 |
| Iran | Catch-all (Regulation (EC) 428/2009, Article 4) | 4,427.60 |
| Iran | Catch-all (Regulation (EC) 428/2009, Article 4) | 1,512.80 |
| Russia | Vibration test systems, equipment and components therefor (CAT2 B116) and accompanying software (CAT2 D101) | 51,127.00 |
| Russia | Vibration test systems, equipment and components therefor (CAT2 B116) and accompanying software (CAT2 D101) | 34,910.79 |

The other denied licence applications involved exports to Hong Kong, India and Russia. The denied application for exports to Hong Kong related to optical detectors, with a value of approximately EUR 35,000, with an end user located in China. The two denied licences for exports to India concerned materials and devices for reduced observables, usable in missiles, missile subsystems or unmanned aerial vehicles (CAT1 C101) to a value of EUR 350,000. The two cases of denied exports to Russia concerned products from category CAT2 B116 to a value of approximately EUR 86,000. This denial of export licences for Russia was noteworthy because in the past year three licences were approved for the export of similar products to a recipient in Russia.

The reason for denial of these licence applications was not indicated by the Flemish Government in its monthly report. The only information regarding the reason for denied export licences for dual-use items comes from a written question from 2006 and relates to licences denied in 2003-2005.[6] Here the risk of nuclear proliferation (Iran, India), or the fact that the end user was insufficiently verified (Israel, Indonesia, Ethiopia) was referred to.

# 5 Conclusions

In this report the licences issued and denied in 2010 for intra-Community transfer and export of dual-use items have been analysed on the basis of the monthly reports published by the Strategic Goods Monitoring Unit.

Dual-use items are items that were not developed specifically for military purposes, but can nonetheless have a military application. The export of these dual-use items is regulated by Regulation (EC) 428/2009, which is directly applicable throughout the European Union. Given that there is free movement of materials within the European Union, there are important distinctions between the transfer of dual-use items within the EU, the export of these products to 'friendly' countries, and their export to 'other' countries.

## Intra-Community transfers

With the exception of a number of nuclear-related items, no licence is required for transfers of dual-use items to other EU Member States. The total scale of transfers of dual-use items from Flanders cannot therefore be estimated on the basis of the licences granted. In 2010, 16 individual licences were issued in Flanders for the transfer of nuclear materials (CAT0) to seven EU Member States. These related to the transfer of special fissile materials. No licence applications were denied..

## Exports to 'friendly' countries

For the export of dual-use items to countries which are not members of the EU, two different regimes apply depending on the recipient country. For exports to seven 'friendly' countries (Australia, Canada, Japan, New Zealand, Norway, Switzerland, and the United States) a Community General Export Authorisation applies for most dual-use items, which means in practice that no further licence application need be made in Member States for such transfers. Consequently, in this case too it is not possible to estimate the full scale of dual-use exports to 'friendly' countries. For the products for which a specific licence is required, 20 individual licences and one global licence were applied for in 2010. Most licence applications related to the export of nuclear materials (CAT0), but licences were also issued for special materials (CAT1), for example for certain toxins and plant pathogens. No licences for export to 'friendly' countries were denied in 2010.

## Exports to 'other' countries

87 individual licences and 51 global licences were issued in Flanders in 2010 for exports to 'other' countries outside the EU.

The ***individual licences*** related to specific transactions, notably to cases where a company intended to export specified licenseable products to one specified recipient in one specified country. Electronics (CAT3) and special materials and related equipment (CAT1) made up half and a third, respectively, of the value of exports of dual-use items under individual licence in Flanders in 2010. Individual licences were also issued for the export of products for information security (CAT5), materials processing equipment (CAT2), sensors and lasers (CAT6), nuclear materials (CAT0) and global navigation satellite systems receiving equipment (CAT7).

Between 2007 (EUR 117.6 million) and 2010 (EUR 42.7 million), the value of exports under individual licence to 'other' countries declined significantly. This fall reflected a shift in the type of licence applications submitted for the export of special materials and related equipment (CAT1): for these products, global licence applications are increasingly being made instead of individual licence applications.

***Global licences*** are not issued for a specified individual transaction, but allow a Flemish exporter to export a number of products specified in advance to all countries included in the licence, up to the value of the licence. The combined value of global licences issued in 2010 reached EUR 429.3 million. Since Flemish companies apply for global licences for the export of their products to a broad range of potential clients, this figure is a clear overestimate of the value of actual exports of these products under global licences. While the global licences issued in 2010 for exports to 'other' countries on average listed 9.3 recipient countries, approximately half of these global licences had only one recipient country. Most global licences were issued for the export of special materials and related equipment (CAT1), but a number of licences were also issued in 2010 for products for information security (CAT5).

In principle, the Flemish exporter can export these products to all civil recipients in the approved recipient countries, but in a number of global licences the Flemish Government has imposed a restriction on the end users of the products with a view – so far as possible – to preventing undesirable end-use. In 2010 this was the case for 18 licences - significantly less than in 2009. The rise in the number of global licences issued was thus to a large extent matched by an increase in the number of global licences in which a restriction on the end users was imposed. It may further be noted that in contrast to 2009, restrictions on end users in 2010 related to end users in a broader range of potential recipient countries.

In 2010 licences were not issued exclusively for the export of products listed in Annex IV to Regulation (EC) 428/2009. In order to do the utmost to avoid undesirable end use, such as the development of weapons of mass destruction, Regulation (EC) 428/2009 includes a ***catch-all clause*** that makes it possible to impose a licensing obligation on the export of 'free' items. In 2010 the Flemish Government issued six individual licences, with a total value of EUR 5.2 million, on the basis of this catch-all clause. They involved four licences for exports to Iran, one licence for exports to the United Arab Emirates (with India as country of end use), and one licence for exports to South Africa. Further, one licence was also issued in 2010 for exports to Iran on the basis of Regulation (EC) 423/2007, which concerns restrictions with respect to this Asian country.

A number of export applications were also denied on the basis of the licensing obligation in Regulation (EC) 423/2007 and the catch-all clause of Regulation (EC) 428/2009. In total, 9 applications for an export licence for dual-use items were denied by the Flemish Government - more than in previous years. They involved 4 licences for export to Iran (required on the basis of Regulation (EC) 423/2007 and the catch-all clause from Regulation (EC) 428/2009), one licence for the export of optical detectors to Hong Kong (with China as country of end use), two licences for the export of materials and devices for reduced observables, usable in missiles, missile subsystems or unmanned aerial vehicles to India, and two licences for the export of specific test systems and accompanying software to Russia.

# 6 Appendix

***Table 23:*** *Number and value of individual licences issued for the export of dual-use items to 'other' countries, by category, 2010*

| Nature of the items | Number | Value |
|---|---|---|
| Nuclear materials, facilities and equipment (CAT0) | 8 | 845,659.13 |
| Special materials and related equipment (CAT1) | 36 | 12,638,303.85 |
| Materials processing (CAT2) | 17 | 2,470,379.90 |
| Electronics (CAT3) | 6 | 19,851,018.33 |
| Telecommunications and information security (CAT5) | 9 | 5,463,808.72 |
| Sensors and lasers (CAT6) | 10 | 1,441,176.78 |
| Navigation and avionics (CAT7) | 1 | 5,000.00 |
| **Total** | **87** | **42,715,346.71** |

***Table 24:*** *Number and value of global licences issued for the export of dual-use items to 'other' countries, by category, 2010*

| Nature of the items | Number | Value |
|---|---|---|
| Nuclear materials, facilities and equipment (CAT0) | 2 | 105,000.00 |
| Special materials and related equipment (CAT1) | 33 | 142,936,548.78 |
| Materials processing (CAT2) | 1 | 5,000,000.00 |
| Electronics (CAT3) | 2 | 6,167,750.00 |
| Telecommunications and information security (CAT5) | 12 | 323,051,970.00 |
| Sensors and lasers (CAT6) | 1 | 15,000,000.00 |
| **Total** | **51** | **492,261,268.78** |

***Table 25:*** *Overview of the number of recipient countries in global export licences for dual-use items to 'other' countries, 2007-2010*

| Number of recipient countries | Number of licences | | | |
|---|---|---|---|---|
| | 2007 | 2008 | 2009 | 2010 |
| 1 | 5 | 16 | 12 | 25 |
| 2 | 2 | 4 | 5 | 6 |
| 3 | 2 | 3 | 1 | 1 |
| 4 | 2 | – | 1 | – |
| 5 | – | 1 | 1 | 2 |
| 6 | 2 | 1 | – | 1 |
| 7 | – | 1 | – | 2 |
| 8 | 1 | – | – | – |
| 9 | – | – | – | 1 |
| 10 | 1 | 1 | 1 | – |
| 11 | 2 | 3 | – | 1 |
| 12 | 2 | – | 1 | 1 |
| 13 | 1 | – | – | – |
| 14 | – | 2 | 1 | 1 |
| 15 | 3 | 2 | 2 | 4 |
| 22 | 1 | 1 | – | |
| 24 | 2 | | – | |
| 25 | – | 1 | – | |
| 26 | 2 | – | – | |
| 27 | – | – | – | 2 |
| 28 | 1 | – | – | – |
| 30 | – | 1 | 2 | – |
| 31 | – | 3 | 1 | – |
| 33 | – | – | 2 | – |
| 34 | – | – | 1 | 1 |
| 35 | – | – | – | 1 |
| 38 | – | – | – | 1 |
| 44 | – | 1 | | – |
| 49 | 1 | – | – | – |
| 62 | – | 1 | – | – |
| 72 | – | 1 | – | 1 |
| 73 | – | – | 1 | – |
| 74 | – | – | – | 1 |
| **Total** | **30** | **43** | **32** | **52** |

# End notes

1 *http://iwww.vlaanderen.be/wapenhandel*

2 Law of 5 August 1991 on the import, export, and transit of and against the illegal trade in weapons, ammunition and materials specifically intended for military use or for law enforcement purposes and related technology, as last amended on 26 March 2003.

3 Council Regulation (EC) 428/2009 of 5 May 2009 setting up a Community regime for the control of the exports, transfer, brokering and transit of dual-use items, *http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2009:134:0001:0269:NL:PDF*

4 Council Regulation (EC) No. 423/2007 of 19 April 2007 concerning restrictive measures against Iran. *http://www.febelfin.be/export/sites/default/febelfin/pdf/Embargos/Embargos002/Verord19.4.2007.pdf*

5 Article 3.2 of Council Regulation (EC) No. 423/2007 of 19 April 2007 concerning restrictive measures against Iran. *http://www.febelfin.be/export/sites/default/febelfin/pdf/Embargos/Embargos002/Verord19.4.2007.pdf*

6 Moerman, F., in response to question no. 61 of 30 March 2006 from Kurt De Loor.

*The Flemish Peace Institute was founded by Act of the Flemish Parliament to serve as an independent institute for research on peace issues. The Peace Institute conducts scientific research, documents relevant information sources, and informs and advises the Flemish Parliament and the public at large on questions of peace.*

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