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# *Flemish Foreign Trade in Dual-use Items 2011*

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# Summary

Dual-use items are products and technologies that were not developed specifically for military purposes but which may have a military application. Exports of these dual-use items from Flanders are regulated by EC Regulation 428/2009. This report analyses licences issued and denied by the Flemish authorities in 2011.

## **1. The nature of procedures makes it difficult to spot key features and trends**

It is very difficult to identify key features and trends in dual-use exports. For trade in dual-use items within the EU and with countries falling under a Community General Export Authorisation (CGEA), typically no licence is required. Moreover, for exports to other countries global licences are often used, whereby a Flemish exporter can export a number of predefined items to the countries listed on the licence. Data from the global licences reflects potential exports rather than specific transactions. All this makes it difficult to provide a comprehensive analysis of Flemish dual-use exports.

## **2. 138 individual and 44 global licences were issued in the past year**

### *Intra-Community transfer*

As no licence is generally required for the transfer of most dual-use items to other EU Member States (free movement of goods), the total scale of transfers of dual-use items from Flanders to EU Member States cannot be estimated on the basis of licences granted. In 2011, the Flemish authorities only issued 15 individual licences (55.6 million euro) for exports of nuclear materials (CAT0) and enriched lithium (CAT1) and one global licence (10 million euro) for exports of materials for use as absorbers of electromagnetic waves (CAT1).

### *Exports to countries for which a CGEA applies*

For exports of dual-use items to Australia, Canada, Japan, New Zealand, Norway, Switzerland, and the United States, a community general export authorisation (CGEA) applies for most items and no Flemish export licence need be applied for. In 2011, 21 licences (7.2 million euro) were issued for exports of nuclear materials (CAT0), special materials (CAT1) and items for materials processing (CAT2) to these seven countries.

### *Exports to other countries*

In 2011, 97 individual licences and 43 global licences were issued for exports of dual-use items listed in Regulation 428/2009 to other countries. The individual licences (149.6 million euro) mainly concerned exports of electronics (CAT3), items for aerospace and propulsion (CAT9) and special materials and related equipment (CAT1). Further, in the past year, 4 licences (322,578 euro) were issued for exports to Iran on the basis of the catch-all clause of Regulation 428/2009 (Article 4). The combined value of the 43 global licences issued by Flanders in 2011 amounted to 471.8 million euro.

### *Exports to Iran requiring licensing as a result of restrictive measures*

In recent years, various restrictive measures regarding trade with Iran have been introduced in view of concerns that the country is seeking to develop nuclear weapons. These restrictive measures also concern exports of dual-use items. Based on Regulation 961/2010, direct and indirect trade with Iran is forbidden for all dual-use items and technology listed in Annex I of Regulation 428/2009 (with the exception of CAT5), and a licence obligation has been introduced for items and technology listed in Annex II and Annex IV of Regulation 961/2010. Based on this Regulation, in the past year the Flemish authorities applied a licence obligation to a larger range of exports. Two export applications were refused in 2011. One export (of certain types of heat exchangers and ring-shaped seals and gaskets with a value of 122,397.65 euro) was allowed.

### ***3. Limited range of items and limited group of companies concerned***

Licences for intra-Community transfer and exports for the majority of goods categories relate to a rather limited range of items. Only in the case of exports of items from the category 'special materials and related equipment' (CAT1) do we see a broader range. Given the rather limited range of items, Flemish dual-use exports are probably carried on by a relatively limited group of companies. While a certain stability can be seen in the scale of dual-use exports, the licences granted in 2011 for exports of unmanned aircraft and related equipment and software point to the development of new dual-use activities in Flanders.

### ***4. Increase in restrictions on end-users for global licences***

Since a Flemish exporter with a global licence can, in principle, export its items to any recipient in any country included in the licence (on condition that that the value of exports remains within the value of the licence), the risk of undesirable end-use is much higher for global licences than for individual licences. With a view to avoiding undesirable end-use, the Flemish authorities more often impose limitations on potential end-users in these recipient countries, in a number of global licences. In 2011, limitations on end-users were imposed in 17 global licences.

### ***5. Highest ever value of denied licences***

In 2011, the Flemish authorities denied 10 licences for exports of dual-use items. These concerned exports to India and Iran. With a combined value of 904,162 euro, this is the highest value of dual-use exports to be denied since the Strategic Goods Monitoring Unit started publishing its monthly reports in 2007.

# 1 Introduction

For political and economic reasons, trade in arms, military equipment and goods that can be used for the production of weapons of mass destruction is not banned, but a control system with licences allows for security aspects to be taken into consideration. Governments manage risks by assessing the appropriateness of transactions related to these strategically important goods in the frame of their licensing policies based on internationally agreed directives. The Flemish authorities report to the Flemish Parliament on the exercise of their competence in this matter.

A significant distinction is made between military equipment on the one hand, and dual-use items on the other, when monitoring strategic goods - also in view of the divergent regulatory framework. The Flemish Peace Institute therefore analyses trade in these two product categories in two separate annual reports. For an analysis of Flemish foreign arms trade, the reader is referred to the report, "Flemish foreign arms trade 2011".<sup>1</sup> The present report provides an analysis of licences issued and denied for dual-use items in 2011.

Dual-use items are products and technologies that were not developed specifically for military purposes but which may 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.

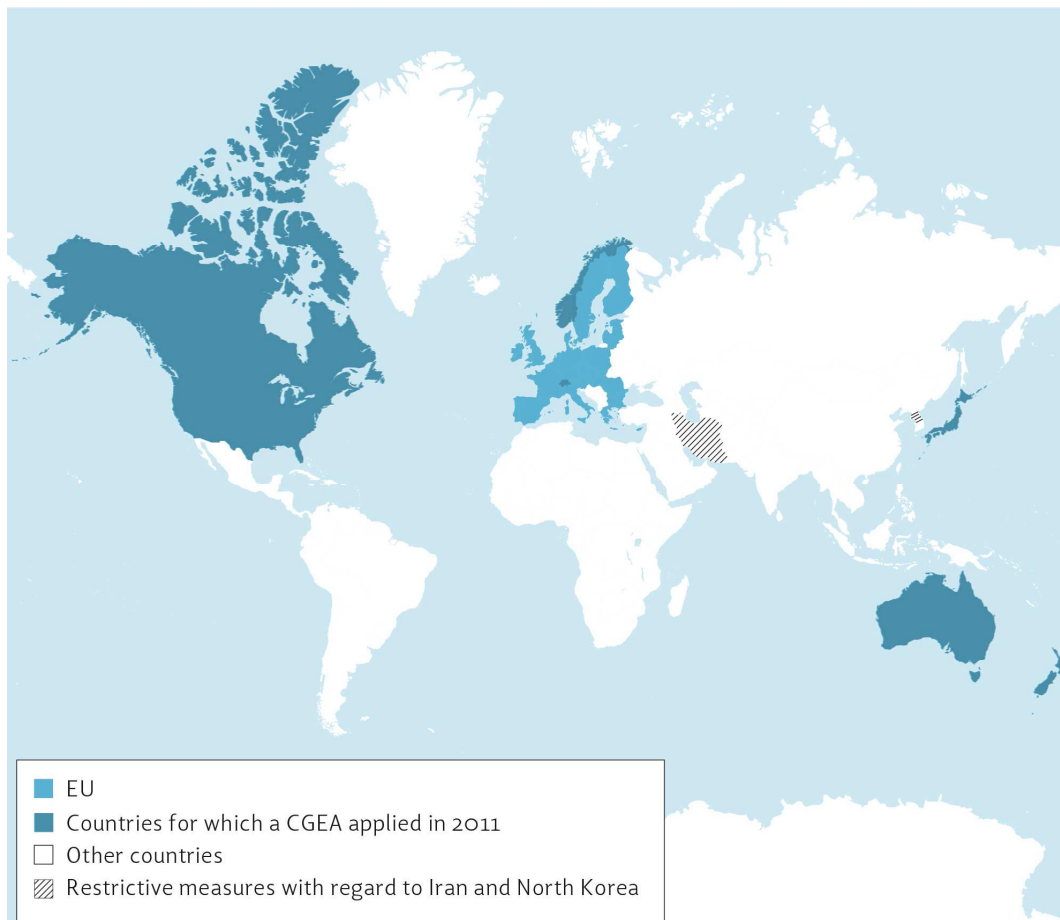
Flemish export control policy on dual-use items is largely determined by European provisions and is regulated by EC Regulation 428/2009 of 5 May 2009 (formerly, Regulation 1334/2000). Regulation 428/2009 is directly applicable in the whole European Union as part of the common trade policy. An extensive list of dual-use items subject to a licence obligation (Annex I) is included in annex to this Regulation. This list is in turn based on the lists of relevant international control regimes (Wassenaar Arrangement, Missile Technology Regime, Nuclear Suppliers Group, Australia Group and the Chemical Weapons Convention). In this list, numbering more than 200 pages, dual-use items subject to a licence obligation are divided up into 10 main categories. The following is a list of those categories: nuclear materials, facilities and equipment (CAT0), special materials and related equipment (CAT1), materials processing (CAT2), electronics (CAT3), computers (CAT4), telecommunications and "information security" (CAT5), sensors and lasers (CAT6), navigation and avionics (CAT7), marine (CAT8), aerospace and propulsion (CAT9).

In Belgium, competence for trade of dual-use items, together with competence for arms trade, is regionalized: competence for implementing European regulations with regard to dual-use items has been devolved to the three regions since 2003. 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.

Given that there is free movement of materials within the European Union, an important distinction should be made between the transfer of dual-use items within the EU and exports of these products to non-EU Member States. In contrast to military materials, no licence is needed for the transfer of most dual-use items to other EU Member States. A significant group of items for which a licence is necessary for trade within the EU includes, notably, nuclear-related items.



For exports of dual-use items to countries outside the EU, a licence application must be submitted to the competent authorities in each Member State. For exports of dual-use items to a limited number of countries outside the EU (Australia, Canada, Japan, New Zealand, Norway, Switzerland, and the United States), a community general export authorisation (CGEA) applies to most dual-use items, which in practice means that no further trading licences need be applied for in the Member States. Flanders still requires an individual or global export licence for exports to 'other' countries outside the EU. These are two very different kinds of licences: individual export licences relate to specified individual transactions (exports of specified products to a specified destination), while a Flemish exporter with a global licence can export a number of pre-defined products to countries included in the licence (up to the licence value). The exporter can in principle export his licensed products to all 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 exports of a further range of products to Iran (Regulations 423/2007 and 961/2010), fearing the country's alleged ambitions to develop nuclear weapons. Following the example of United Nations resolutions, the European Union has also imposed restrictive measures with respect to North Korea, including a ban on exports of materials and technology which could contribute to programmes concerning weapons of mass destruction in that country (Regulations 329/2007, 117/2008, 689/2009, 1283/2009 and 567/2010).

In the present report we analyse the licences issued and denied in 2011 for the intra-Community transfer, and for the export, of dual-use items. These analyses are based on data from the official

reports published by the Flemish Region's Strategic Goods Monitoring Unit on its website.<sup>2</sup> While the 1991 Arms Trade Act<sup>3</sup> imposes a reporting obligation on the competent authority for licences issued for foreign trade in military equipment, this is not the case for foreign arms trade in dual-use items. Nevertheless, information about Flemish licences for exports and transit of dual-use items has been publicly available since January 2007. Every month the Strategic Goods Monitoring Unit publishes a report with an overview of the export licences issued and denied for these items for that particular month. When considering the analysis in this report, it is important to bear in mind that a large part of the trade in dual-use items is free (within the EU) or takes place under a community general licence (with a number of other industrialized countries). For such trade, specific licences are not issued by the Flemish authorities and are therefore not recorded in the aforementioned monthly report. These transactions are thus not included in the present report's analysis.

Before we analyse the licences for intra-Community transfer and exports of dual-use items, we first briefly discuss the Flemish authorities' current reporting methods regarding these licences.

## 2 Flemish reporting methods for trade in dual-use items in 2011

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

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

- the type of licence (individual or global licence)
- the nature of the items<sup>I</sup>
- the recipient country (or countries)<sup>II</sup>
- the country of end-use (if different from the recipient country).
- the value stated in the licence application.

In the monthly reports, further information relating to various licences is commonly provided: for instance, if the licensing authority imposes a restriction on end-users for a global licence. In contrast to the reporting on foreign trade in military equipment, however, the type of end-user of the items is not reported in the periodic dual-use reports.

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<sup>I</sup> The nature of the items is described using the code for the main category and the more detailed subcategory of the products, based on the European list of dual-use items (Annex I to EC 428/2009). The items and technology included in this list are divided into ten main categories, each with five subcategories: (A: "Systems, Equipment and Components", B: "Test, Inspection and Production Equipment", C: "Materials", D: "Software", E: "Technology"). Within these subcategories, a further distinction is made between the items and technology.

<sup>II</sup> In the past, individual transit licences mentioned not only the country of destination but also the country of origin. However, the Flemish authorities issued no transit licences in 2011.



## 3 Intra-Community transfer

There is free movement of goods within the European Union and this principle also applies to intra-Community trade in dual-use items, apart from a few exceptions. A licence is required for transfers of such items between EU Member States in only a limited number of cases:

- The first exception relates to exports of dual-use items from Annex IV of Regulation (EC) 428/2009 (in which the most sensitive products from Annex 1 are again listed). A stricter regime applies for these items and a licence is also required for intra-Community transfer.<sup>I</sup> This mainly concerns nuclear items.
- Additionally, a Member State *may* in some specific cases also impose a licence obligation on another Member State for the transfer of dual-use items that are not included in Annex IV.<sup>II</sup>

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

### 3.1 Licences issued

In 2011 the Flemish authorities issued 16 individual licences for the transfer of dual-use items within the EU (see Table 1). There were 15 individual licences and one global licence. Most licences involved the transfer of nuclear materials (CAT0); particularly special fissile materials, but also components of nuclear reactors and zirconium metal and/or alloys in the form of tubes. These transfers took place on the basis of individual licences. Further, a number of licences were issued for the transfer of special materials and related equipment (CAT1); more specifically, materials specially designed for use as absorbers of electromagnetic waves (with a global licence) and enriched lithium (with individual licences).

The total value of Flemish dual-use export licences for EU Member States amounted to 65.6 million euro in 2011, 10 million of which was covered by the global licence. Germany in particular was an important recipient country with regard to these dual-use export licences.

However, considering that transfers of the vast majority of dual-use items - as listed in the Annex of Regulation (EC) 428/2009 - are not subject to a licence obligation, the total value of intra-EU transfers of dual-use items from Flanders will have been significantly higher than 65.6 million.

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<sup>I</sup> For items from Part I of Annex IV there is a possibility of a National General Authorisation for intra-Community trade. For items from Part II, National General Authorisation for intra-Community trade is not possible and an application must be submitted for individual licences.

<sup>II</sup> This is possible if all of the following conditions are met:

- 1) the exporter knows that the final destination of the items is outside the European Community;
- 2) exports of items to that final destination are subject to a licence obligation in the Member State from which the items are to be exported pursuant to Articles 3, 4 or 8 of Regulation 428/2009, and such exports directly from its territory are not permitted 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 transferred.

Table 1: Overview of licences for intra-Community transfer of dual-use items, 2011

Nature of the items	Number of licences	Amount of licences
<b>Austria</b> - Special fissile materials (CAT0 C002)	1	4,560
<b>Germany</b> - Internal components of nuclear reactors (CAT 0 A001.h) <sup>1</sup> and zirconium metal and alloys in the form of tubes (CAT 0 A001.f)	1	6,450,665.00
- Special fissile materials (CAT0 C002)	3	48,016,630.00
- Enriched lithium (CAT 1 C233)	1	275.00
<b>Finland</b> - Special fissile materials (CAT0 C002)	1	1,040.00
<b>France</b> - Special fissile materials (CAT0 C002)	3	2,040.00
- Enriched lithium (CAT 1 C233)	1	2,000.00
- Special fissile materials (CAT0 C002) and lithium (CAT 1 C233)	1	10,851.00
<b>Greece</b> - Special fissile materials (CAT0 C002)	1	520.00
<b>Romania</b> - Equipment specially developed or produced for factories, specially developed for the manufacture of fuel elements for nuclear reactors (CAT0 B005)	1	969,961.00
<b>United Kingdom</b> - Equipment specially developed or produced for factories, specially developed for the manufacture of fuel elements for nuclear reactors (CAT0 B005)	1	146,000.00
<b>Global licence for 24 EU Member States</b> - Materials for use as absorbers of electromagnetic waves (CAT1 C001.a)	1	10,000,000.00
<b>Total</b>	<b>16</b>	<b>65,604,542.00</b>

## 3.2 Denied licence applications

As in previous years, no licence applications for intra-Community transfer of dual-use items were denied in Flanders in 2011.

<sup>1</sup> For complete descriptions and technical details of the items mentioned in this and other tables and text in the present report, see (using given code) the EC list of dual-use items set out in the annexes of Council Regulation 428/2009 of 5 May 2009 setting up a Community regime for the control of exports, transfer, brokering and transit of dual-use items, at <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2009:134:0001:0269:en:PDF>

## 4 Exports of dual-use items

In contrast to trade among EU Member States, cross-border trade in dual-use items to countries outside the European Union is subject to a licence obligation. On the basis of Regulation 428/2009<sup>4</sup>, companies in Europe can make use of a Community General Export Authorisation (CGEA) for exports of most dual-use items to seven specific countries (Australia, Canada, Japan, New Zealand, Norway, Switzerland and the United States)<sup>1</sup>.<sup>ii</sup> A significant implication is that exporters using this procedure no longer have to apply for specific licences for these exports, but they must inform the national authorities of the first export made at the latest within 30 days of its date.<sup>iii</sup> Given the important distinction between exports of dual-use items to countries for which a CGEA applies and exports to the other countries, in this chapter we analyse the licences issued and denied in two separate sections.

### 4.1 Exports to countries for which a CGEA applies

A CGEA applies for exports of most dual-use items to Australia, Canada, Japan, New Zealand, Norway, Switzerland and the United States and, based on European regulations, no specific licence application is required. For exports of other items to these countries, exporters must apply for individual or global export licences to the Strategic Goods Monitoring Unit in the Flemish Region.

#### 4.1.1 Licences issued

In 2011, 21 licences were issued for exports of dual-use items to CGEA countries (see Table 2). They were invariably individual licences. They concerned exports of nuclear materials to Australia, Japan, Switzerland and the United States, exports of enriched lithium to the United States, exports of intrinsically conductive materials based on polythiophene to Japan and the United States, and exports of valves made from nickel to Switzerland.

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<sup>i</sup> This Community General Export Authorisation applies to all items in Annex I to Regulation 428/2009, with the exception of the items mentioned in part 2 of Annex II (all items in Annex IV plus 12 additional categories).

<sup>ii</sup> With respect to the Community General Export Authorisation there are two important restrictions. Firstly, a CGEA cannot be used if the exporter has been informed by the competent authorities that the goods may be destined entirely or in part for use related to weapons of mass destruction, or for a military end-use in a country where an arms embargo is in place. Secondly, a CGEA cannot be used if the items in question are exported to a customs-free zone or free warehouse which is located in one of the specified recipient countries.

<sup>iii</sup> With the adoption of Regulation 1232/2011 in November 2011, five additional Community General Authorisations were introduced for exports of a number of listed items outside the EU to a number of listed countries. Given that this Regulation only comes into force in January 2012, it had no practical consequences for licences issued in 2011.

Table 2: Overview of licences for exports of dual-use items to CGEA countries, 2011

Nature of the goods	Number of licences	Amount of licences
<b>Australia</b> - Natural uranium or depleted uranium or thorium (CAT0 C001)fn and special fissile materials (CAT0 C002)	1	1,040.00
<b>Japan</b> - Special fissile materials (CAT0 C002)	2	166,760.00
- Natural uranium or depleted uranium or thorium (CAT0 C001) and special fissile materials (CAT0 C002)	1	2,195.00
- Intrinsically conductive materials based on polythiophene (CAT1 C001.c.3)	1	5,000,000.00
<b>Switzerland</b> - Natural uranium or depleted uranium or thorium (CAT0 C001)	1	100.00
- Special fissile materials (CAT0 C002)	1	9,125.00
- Valves made from nickel (CAT2 B350.g.4) (with Ukraine as country of end-use)	1	4,626.88
<b>United States</b> - Natural uranium or depleted uranium or thorium (CAT0 C001)	2	1,420.00
- Special fissile materials (CAT0 C002)	6	18,340.00
- Natural uranium or depleted uranium or thorium (CAT0 C001) and special fissile materials (CAT0 C002)	3	3,870.00
- Intrinsically conductive materials based on polythiophene (CAT1 C001.c.3)	1	2,000,000.00
- Enriched lithium (CAT 1 C233)	1	1,500.00
<b>Total</b>	<b>21</b>	<b>7,208,976.88</b>

The combined value of these individually licensed exports in 2011 came to 7.2 million euro. We should, however, emphasise again that these figures refer to a limited range of dual-use items, since a Community General Export Authorisation covers exports of most licenseable products to the seven previously mentioned CGEA countries. The total extent of exports of dual-use items from Flanders to these countries cannot be estimated based upon licences issued.

#### 4.1.2 Denied licence applications

As in previous years, in 2011 the Flemish authorities did not deny any licence applications for exports of dual-use items to 'friendly countries'.

## 4.2 Exports to other countries

In this section we analyse the licences issued in 2011 for exports of dual-use items to non-EU Member States for which no CGEA applies. For these countries, exports of dual-use items listed in Annex 1 of Regulation (EC) 428/2009 in 2011 were subject to a licence obligation. Businesses can apply to the Flemish authorities' Strategic Goods Monitoring Unit for individual or global licences to this end.

### 4.2.1 Individual licences

Individual licence applications are submitted for a specific transaction, notably when a business wishes to export specified products for which a licence is required to a specified recipient in a specified country. These licences are valid for one year and can be extended by one year. After the licence has been used or has expired, the applicant must return the licence to the competent department of the Flemish authorities.

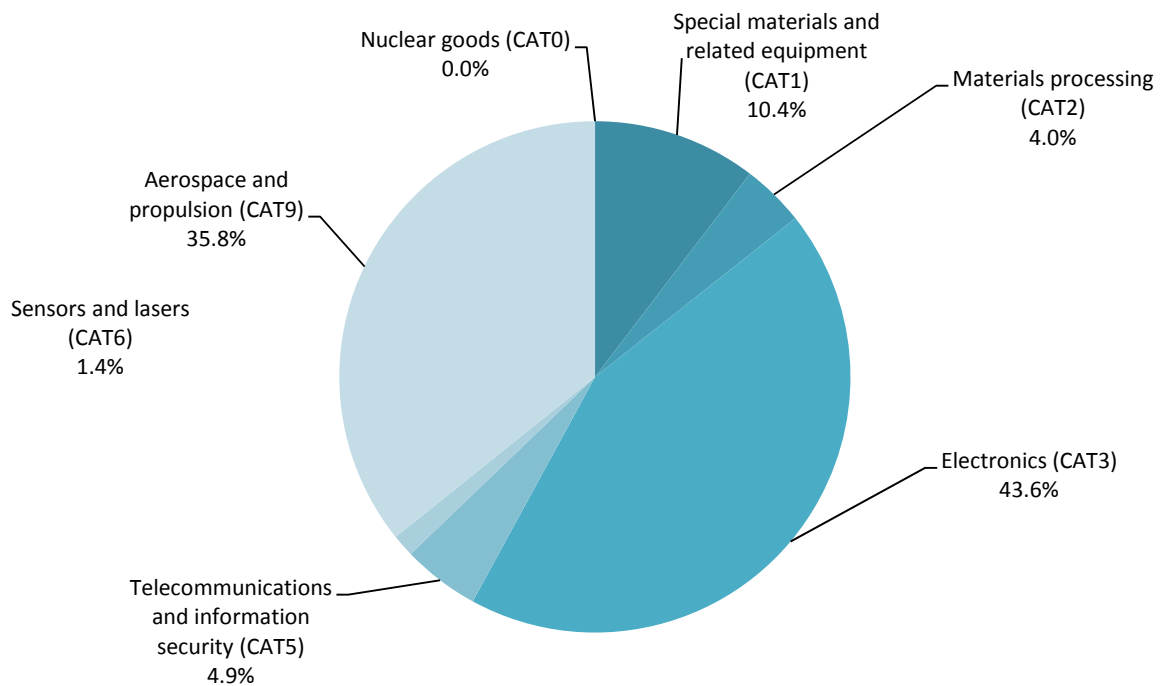
In 2011, the Flemish authorities issued 97 individual licences with a combined value of 149.6 million euro for exports of dual-use items to non-EU Member States for which no Community General Export Authorisation can be used. Individual licences for exports of dual-use items covered only a limited range of different types of items. Electronics (CAT3) and products for aerospace and propulsion (CAT9) together represented nearly 80% of the total value of individual dual-use licences in Flanders in 2011.

Exports under individual licence of electronics (CAT3) subject to a licence obligation amounted to 65.2 million euro. Similarly to 2010, this represents nearly half (44%) the value of exports of dual-use items under individual licence in Flanders. In absolute terms, the value of these licences – reflecting a sharp general increase - more than tripled. In particular, licences worth substantial amounts (60 million) were issued for exports of this technology to China and Singapore. The other individual licences related to resistors, electronic components for general purpose integrated circuits, radio frequency "signal analysers" and technology for development or production of electronic equipment or materials subject to a licence obligation.

Individual licences for exports of products for aerospace and propulsion (CAT9) were few in number, but of very high value. The seven licences issued had a combined value of 53.5 million euro, representing 36% of the total value of individually licensed dual-use exports, which is significantly more than in previous years. More specifically, these licences concerned unmanned aerial vehicles and related systems, launch support equipment and operating software.

A third important group of products among the individual export licences for 'other' countries consisted of special materials and related equipment (CAT1). Many individual licences were issued for these goods, with a total value amounting to 15.5 million euro. They covered all kinds of materials including, inter alia, materials for use as absorbers of electromagnetic waves, and chemicals suitable for manufacture of toxic substances and as precursors for toxic chemical agents

Figure 1: Value of individual export licences for dual-use items to 'other' countries, by category, 2011



In addition to items subject to a licence obligation from these three categories, individual licences - for a rather limited value - were also issued in 2011 for exports of products for information security (CAT5 - 7.3 million euro), sensors and lasers (CAT6 - 2.1 million euro), materials processing (CAT2 - 5.9 million euro), and nuclear materials (CAT0 - 2,596 euro).

In 2011, exports of dual-use items under individual licence increased sharply - in number as well as value - in comparison to previous years (see Table 3). This increase, however, does not necessarily signify a sharp increase in exports of dual-use items to these countries, given that a large proportion of these items were also exported from Flanders on the basis of global licences (see 4.2.2). The steep and continuous decline in value of individually licensed exports between 2007 and 2010, which was identified last year, was the result of a shift in the type of licence used for exports of 'special materials and related equipment' (CAT1). The sharp increase in 2011 was primarily the result of the increasing value of individual licences for exports from Flanders of electronics subject to a licence obligation (CAT3) and items for aerospace and propulsion (CAT9) (see 4.2.3).



Table 3: Number and value of individual licences for dual-use items to 'other' countries, 2007-2011.

Year	Number of licences	Value of licences
2007	59	117,595,587.39
2008	67	73,942,527.88
2009	66	59,724,010.57
2010	87	42,715,346.71
2011	97	149,576,960.29

#### 4.2.2 Global licences

In 2011, the Flemish authorities issued 43 global licences with a combined value of 471.8 million euro.<sup>1</sup> The value of these licences was of the same order of magnitude as in 2010 (see Table 4).

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 countries included in the licence, up to the licence value. In a limited number of cases, a restriction is imposed on the recipients to whom goods can be exported in these countries (see 4.2.2.2), but in principle the exporter can export its licensed products to all recipients within the countries listed in the licence.

Table 4: Number and value of global licences for dual-use items to 'other' countries, 2007-2011.

Year	Number of licences	Value of licences
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
2011	43	471,766,566.00

Due to the specific nature of global licences, it is not possible to estimate the scale of actual dual-use exports under global licence on the basis of the Flemish authorities' present reporting methods. While dual-use exports from Flanders to other EU Member States and to 'friendly' countries are underestimated if calculated by the individual export licences issued (see Chapter 3

<sup>1</sup> For a better understanding of this analysis, it should be noted that there is a discrepancy between the number of global licences indicated in this report and the number of global licences indicated in the monthly reports of the Strategic Goods Monitoring Unit. A number of major companies sometimes apply for several identical global licences in order to ensure that they "have the necessary means to deal with the different customs offices and to be able to simultaneously export the listed indicated products to various countries. The company does not intend to export products for the combined amount of the ..... licences. However, it needs to hold several licences in order to comply with the administrative formalities and to complete the economic process", according to the monthly reports. In the Strategic Goods Monitoring Unit's monthly reports, these identical licences are added to the other licences when compiling the overall monthly figures, with the result that the number and value of global licences issued is artificially inflated. In the present analysis these extra licences are not counted as different licences but rather as 'copies' of the same licence. In a case where, for instance, one company applies for five identical licences, we have included one only licence in our overall figures. The four remaining licences are, in this instance, considered to be merely extra copies. This makes it possible indirectly to arrive at a more realistic analysis of the trade flows that are subject to a licence obligation.

and 4.1), we can be sure that actual dual-use exports from Flanders to the 'other' countries - with a value of nearly 500 million euro of global export licences - are overestimated. Since the exporter with a global licence can make unlimited exports to all countries mentioned in the licence (within the value of the licence), licence values clearly reflect maximum amounts. Flemish companies apply for global export licences for their products for a broad range of potential clients, so that the value indicated in these specific licences relates to a potential value significantly higher than these companies' actual licenseable exports.

#### **4.2.2.1 Global licences differ significantly in the number of potential recipient countries**

There are major variations in the number of recipient countries that are indicated in global licences. In 2011, for instance, three global licences were issued for potential exports to more than 70 recipient countries, but also several licences for only one or two recipient countries.

In previous years it was noted that a substantial proportion (37- 48%) of global licences concerned exports to only one potential recipient country. In 2011, 12 of the 43 licences had one recipient country (28%). In 2011, the average number of recipient countries for each global licence was 16.8, significantly higher than in previous years (approximately 11.5 countries). On the one hand, applications for licences for exports to a large group of countries occurred relatively more often. On the other hand, the rather limited total value of global licences (see Table 4) might indicate a trend with regard to Flemish companies being more realistic when filling out the value of these licences.

#### **4.2.2.2 Increasing restriction on end-users**

The risk of undesirable end-use of dual-use items is higher when using global licences than with individual licences. While the individual licence concerns a specific transaction and the applicant must indicate the recipient (and also the end-user, if different) of these items, a Flemish exporter with a global licence for dual-use items can in principle export to any recipient on the list of approved recipient countries. In order to avoid undesirable end-use as far as possible, in a number of global licences the Flemish authorities have imposed a restriction on potential end-users in the recipient countries

In 2011, the Flemish authorities imposed a restriction on end-users for 17 global licences. This represented 40% of all global licences, a greater frequency than in 2010 (35%) and 2009 (19%). The Flemish authorities are thus increasingly imposing restrictions with regard to end-users. However, information is not usually provided on precisely what restrictions are involved.

Our analyses show that these restrictions are mainly imposed on certain types of exports. The licences on which a restriction is imposed with respect to end-users are remarkably similar: they always involve items belonging to the category of 'special materials and related equipment' (mainly materials for use as absorbers of electromagnetic waves<sup>I</sup>, aromatic polyamide-imides and sodium cyanide), and the licences always pertain to a limited number of potential recipient countries in a specific region. These recipient countries are generally situated in the Far East (materials for use as absorbers of electromagnetic waves, aromatic polyamide-imides) or in Africa (sodium cyanide<sup>II</sup>). Restrictions with regard to end-users are furthermore also imposed on global licences for certain types of fluorocarbons to Israel and on materials for use as absorbers of electromagnetic waves to Russia and Turkey (see Table 5).

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<sup>I</sup> Materials for use as absorbers of electromagnetic waves (CAT1 C001.a) are included in Annex IV which lists the most sensitive dual-use items.

<sup>II</sup> Sodium cyanide is a very toxic, colourless sodium salt which is used inter alia for mining, but can also be used for the manufacture of chemical weapons (such as, for instance, Sarin gas).

Table 5: Overview of global licences with a restriction on end-users, 2011

Nature of the items	Total	Recipient country / countries
Materials for use as absorbers of electromagnetic waves (CAT1 C001.a)	440,000.00	Hong Kong, China and Taiwan
Materials for use as absorbers of electromagnetic waves (CAT1 C001.a)	150,000.00	Hong Kong and China
Materials for use as absorbers of electromagnetic waves (CAT1 C001.a)	150,000.00	Hong Kong and Japan
Materials for use as absorbers of electromagnetic waves (CAT1 C001.a)	150,000.00	Hong Kong and China
Materials for use as absorbers of electromagnetic waves (CAT1 C001.a)	150,000.00	Hong Kong and China
Materials for use as absorbers of electromagnetic waves (CAT1 C001.a)	150,000.00	Hong Kong and China
Materials for use as absorbers of electromagnetic waves (CAT1 C001.a)	150,000.00	Hong Kong, Singapore and Thailand
Materials for use as absorbers of electromagnetic waves (CAT1 C001.a)	150,000.00	Russia and Turkey
Materials for use as absorbers of electromagnetic waves (CAT1 C001.a)	150,000.00	Russia
Aromatic polyamide-imides (CAT1 C008.a.2)	554,205.00	China, Hong Kong, Malaysia, Taiwan and Russia
Aromatic polyamide-imides (CAT1 C008.a.2)	923,022.00	China, Hong Kong, Malaysia, Taiwan
Sodium cyanide (CAT1 C350.45)	4,428,600.00	Ivory Coast
Sodium cyanide (CAT1 C350.45)	3,690,500.00	Burkina Faso and Eritrea
Sodium cyanide (CAT1 C350.45)	2,767,875.00	Democratic Republic of the Congo
Sodium cyanide (CAT1 C350.45)	4,978,820.00	Guinea
Sodium cyanide (CAT1 C350.45)	2,512,224.00	Tanzania
Certain types of fluorocarbons in cooling fluids for electronic systems (CAT1 C006.d.1.b and C006.d.1.c)	435,000.00	Israel

### 4.2.3 Nature and destination of dual-use items

In this section we review the nature and destination of specific dual-use items for which individual and global licences were issued in 2011 within each goods category from Annex I of Regulation 428/2009.

#### 4.2.3.1 Nuclear materials, facilities and equipment (CAT0)

In 2011, 4 individual licences and 2 global licences were issued for exports of "nuclear materials" (CAT0) to the 'other' countries. The individual licences with a combined value of 47,596 euro related to:

- natural/depleted uranium or thorium (C001) destined for Brazil (635 euro)
- deuterium/heavy water<sup>1</sup> (C003) destined for Jordan (75.67 euro and 165.04 euro)
- a combination of natural/depleted uranium or thorium (C001) and special fissile materials (C002) to Taiwan and India

In comparison to previous years, the value of exports of nuclear materials with individual licences decreased sharply.

Table 6: Number and value of individual licences for nuclear materials (CAT0) to 'other' countries, 2007-2011.

Year	Number of licences	Value of licences
2007	4	1,515,827.00
2008	8	809,494.71
2009	7	433,227.60
2010	8	845,659.13
2011	5	47,595.71

The global licences concerned exports of deuterium/heavy water (C003) to Malaysia on the one hand (45,000 euro), and on the other hand to 14 potential recipient countries (110,000 euro).<sup>11</sup> No restrictions were imposed with regard to potential end-users. Given the nuclear nature of the items, global licences without restrictions on the end-user are noteworthy, but they are not isolated incidents: in 2007, 2008, 2009 and 2010, global licences without restriction on end-users were also issued for products from the same category and for approximately the same recipient countries.

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

In Flanders, the largest group of dual-use licence applications are traditionally for exports of products from the category "special materials and related equipment" (CAT1). Since 2007, the

<sup>1</sup> 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.

<sup>11</sup> Algeria, Brazil, China, Hong Kong, India, Montenegro, Morocco, Russia, Serbia, Singapore, South Africa, South Korea, Taiwan and Turkey.

number of (individual and global) licences for these products has fluctuated annually between 46% and 50% of the total number of licences issued for dual-use exports to the other countries.

In 2011, the Flemish authorities issued 39 individual licences for exports of special materials and related equipment. These licences had a combined value of 15.5 million euro.

They concerned licences for exports of:

- materials for use as absorbers of electromagnetic waves (C001.a), destined for Turkey (3,255 euro, 1,929 euro and 1,249.18 euro) and India (2,027.40 and 1,228 euro)
- intrinsically conductive polymers (C001.c.3), destined for South Korea (1,438,624 euro) and Taiwan (800,000 euro)
- aromatic polyamide-imides (C008.a.2), destined for China (6,500 euro) and India (6,000 euro)
- polymers (C111.b.2) destined for Hong Kong (13,000 euro)
- phosphorous oxychloride (C350/2), phosphorous trichloride (C350/7), thionyl chloride (C350/9) and phosphorous pentachloride (C350/38), destined for Hong Kong (72.72 euro)
- aluminium alloys (C202.a) destined for India (1,142,080 euro)
- porous nickel metal (C240.b) destined for South Africa (2,684,000 euro)
- chemicals which may be used as precursors for toxic chemical agents and chemical mixtures (C350), more specifically:
  - phosphorous oxychloride (C350/2), destined for India (2x 900,000 euro)
  - thionyl chloride (C350/9) and sodium sulphide (C350/50), destined for Pakistan (551.80 euro and 37.98 euro respectively)
  - dimethylamine (C350/16), dimethylamine hydrochloride (C350/20) hydrogen fluoride (C350/24) and sodium fluoride (C350/43), destined for Jordan (27.69 euro, 22.17 euro, 24.57 euro and 17.94 euro respectively)
  - diethyl phosphite (C350/19) destined for Taiwan (12.29 euro)
  - hydrogen fluoride (C350/24), potassium cyanide (C350/40) and sodium fluoride (C350/43), destined for Pakistan (295.65 euro)
  - sodium cyanide (C350/45) destined for Burkina Faso (704,550 euro)
  - triethanolamine (C350/46) destined for Algeria (40,000 euro and 23,883.20 euro), Croatia (21,750 euro and 22,350 euro), Ghana (25,415 euro), Hong Kong (45.98 euro) and Senegal (19,076 euro)
- marburg virus (C351.d.11) destined for Indonesia (920 euro)
- methyldiethanolamine (C450.b.8) destined for Algeria (1,003,968 euro), Israel (67,100 euro), Kazakhstan (100,000 euro), Nigeria (4,000,000 euro and 1,290,000 euro), Egypt (306,762 euro) and Taiwan (9.27 euro)
- metals and compounds (C011), propellants and constituent chemicals for propellants (C111), tungsten, molybdenum and alloys of these metals (C117), chemicals which may be used as precursors for toxic chemical agents chemical mixtures (C350), human pathogens, zoonoses and toxins (C351) and toxic chemicals (C450), destined for India (40,000 euro).

The 31 global licences that were issued in 2011 had a combined value of 105 million euro. In contrast to the other goods categories, restrictions concerning end-users were imposed in two-thirds of the global licences for exports of special materials and related equipment (see Table 5).

The global licences with restrictions on the end-user(s) related to exports of:

- materials for use as absorbers of electromagnetic waves (C001.a), in each case with 1 to 3 recipient countries per licence (China, Hong Kong, Japan, Russia, Singapore, Taiwan and Turkey); the combined value of the 9 licences issued amounted to 1,640,000 euro.

- aromatic polyamide-imides (C008.a.2) with China, Hong Kong, Malaysia, Russia and Taiwan (1,477,227 euro) as potential recipient countries
- sodium cyanide (C350/45) with Burkina Faso, Democratic Republic of the Congo, Eritrea, Guinea, Ivory Coast and Tanzania (10,886,975 euro) as potential recipient countries
- fluorocarbons for electronic systems (C006.d.1.b and C006.d.1.c), destined for Israel (435,000 euro).

The remaining global licences for exports of special materials related to:

- methyldiethanolamine (C450.b.8) for 38 potential recipient countries<sup>I</sup> (9,100,000 euro)
- dimethylamine (C350/16) and dimethylamine hydrochloride(C350/20) to 34 potential recipient countries<sup>II</sup> (12,000,000 and 78,000,000 euro)
- potassium cyanide (C350/40) and sodium cyanide (C350/45), destined for Turkey (2,851,750 euro)
- triethanolamine (C350/46) and methyldiethanolamine (C450.b.8) for 7 potential recipient countries<sup>III</sup> (7,420,000 euro)
- fluorocarbons for electronic systems (C006.d.1.b and C006.d.1.c) with a total of 10 potential Asian recipient countries<sup>IV</sup> (26,000,000 euro and 17,836,472 euro)
- metals and compounds (C011), propellants and constituent chemicals for propellants (C111), tungsten, molybdenum and alloys of these metals (C117), chemicals which may be used as precursors for toxic chemical agents chemical mixtures (C350), human pathogens, zoonoses and toxins (C351) and toxic chemicals (C450), potentially destined for India (50,000 euro).
- metals and compounds (C011), propellants and constituent chemicals for propellants (C111), tungsten, molybdenum and alloys of these metals (C117), hafnium (C231), chemicals which may be used as precursors for toxic chemical agents and chemical mixtures (C350), human pathogens, zoonoses and toxins (C351) and chemicals (C450), with 11 potential recipient countries<sup>V</sup> (50,000 euro)
- propellants and constituent chemicals for propellants (C111), hafnium (C231), chemicals which may be used as precursors for toxic chemical agents and chemical mixtures (C350) and human pathogens, zoonoses and toxins (C351), potentially destined for Hong Kong and Taiwan (45,000 euro).

#### 4.2.3.3 Materials processing (CAT2)

In 2011, 15 licences were issued for exports of items for “materials processing” (CAT2). With one exception, these were all individual licences.

These 14 individual licences had a combined value of 1.9 million euro. More specifically, they concerned exports of:

- coordinate-measuring machines (B006.a) destined for China (61,715 euro)
- isostatic presses (B104) destined for Bahrain (4 million euro)

<sup>I</sup> Algeria, Argentina, Bolivia, Brazil, Brunei, Chile, China, Colombia, Cuba, Ecuador, India, Indonesia, Kazakhstan, Kuwait, Malaysia, Mexico, Montenegro, Netherlands Antilles, Oman, Paraguay, Peru, Philippines, Qatar, Russia, Saudi Arabia, Serbia, Singapore, South Africa, South Korea, Switzerland, Thailand, Trinidad and Tobago, Turkey, Ukraine, United Arab Emirates, Uruguay, U.S. Virgin Islands, Venezuela and Vietnam

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

<sup>III</sup> China, Kazakhstan, Qatar, Russia, Saudi-Arabia, Turkey, Ukraine

<sup>IV</sup> China, Hong Kong, Indonesia, Malaysia, Philippines, Singapore, South Korea, Taiwan and Thailand

<sup>V</sup> Algeria, Brazil, China, Montenegro, Morocco, Russia, Serbia, Singapore, South Africa, South Korea, Taiwan and Turkey



- isostatic presses (B204) destined for Thailand (620,000 euro)
- isostatic presses (B204.a) destined for China (310,000 euro) and Russia (399,000 euro and 435,000 euro)
- valves made from nickel and chromium alloys (B350.g.1), destined for Morocco (3,836.45 euro)
- valves made from fluoropolymers (B350.g.2) destined for Indonesia (2,342 euro and 10,303.56 euro) and Russia (2,432.62 euro and 10,472.08 euro)
- pumps made from fluoropolymers (B350.i.4) destined for Malaysia (8,250 euro)
- testing equipment (B116) and corresponding software (D101), destined for Israel (28,930.40 euro) and South Africa (16,178.50 euro).

The global licence concerned exports of components of chemical production equipment – more specifically, distillation or absorption columns (B350.e) – to 21 potential recipient countries including Albania, Jordan, Saudi Arabia and Ukraine.<sup>1</sup> This licence had a value of 5 million euro. The Flemish authorities imposed no restriction on end-users. In 2009 and 2010, similar applications were submitted for a global export licence for these products with a value of 5 million euro, but in those cases actually listing more recipient countries. Compared with 2010, for instance, Egypt, Libya, Oman and Turkey - among others - were no longer included as recipient countries in the 2011 global licence.

#### 4.2.3.4 Electronics (CAT3)

In 2011, 8 individual licences were issued for exports of dual-use electronics (CAT3) subject to a licence obligation. These licences had a combined value of 65.2 million euro, meaning that electronics represented nearly half the total value of individually licensed dual-use exports in 2011 (see 4.2.1). More specifically, they concerned licences for exports of:

- integrated circuits (A001.a.10) destined for Algeria (50,000 euro)
- dynamic signal analysers (A.002.c.3) destined for Tunisia (42,500 euro)
- hetero-epitaxial materials (C001.d) destined for South Korea (500,000 euro)
- positive *resists* for semiconductor lithography (C002.a), destined for Israel (150,975 euro and 4,026,000 euro)
- *resists* (C002.d) destined for Israel (928,818.33 euro)
- organic compounds (C003.b) destined for Russia (9,980 euro)
- technology for the development or production of electronics subject to a licence obligation (E001), destined for China (22 million euro) and Singapore (38 million euro).

A number of these licences appear every year, with a similar value, in the records of the Flemish authorities. The high value of individually licensed exports of technology destined for China and Singapore, however, is new.

In addition to individual licences, 3 global licences were also issued for exports of electronics subject to a licence obligation. No restrictions were imposed with regard to end-users. These licences had a combined value of 10.7 million euro and concerned exports of:

- Hetero-epitaxial materials consisting of a “substrate” having stacked epitaxially grown multiple layers of III/V compounds of gallium or indium (C001.d), destined for South Korea (500,000 euro)

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<sup>1</sup> Albania, Bosnia-Herzegovina, Brunei, Iceland, Indonesia, Jordan, Kuwait, Macedonia, Montenegro, Morocco, New Caledonia, Qatar, Russia, Saudi Arabia, Singapore, South Africa, South Korea, Taiwan, Turkey, Ukraine and Vietnam.

- positive *resists* for semiconductor lithography (C002.a) to China, Malaysia, Singapore and Taiwan (201,300 euro)
- integrated circuits (A001.a.10) and related technology (E001) to 28 potential recipient countries<sup>I</sup> (10 million euro).

#### 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). This category of dual-use items covers, among others, various very specific computers and related software and technology.

#### 4.2.3.6 Telecommunication and information security (CAT5)

Items with a licence obligation from the category “telecommunications and information security” (CAT5) are subdivided into two groups in the annex to 428/2009: items for telecommunications (part 1) and items for information security (part 2). Licences issued in Flanders in 2011 - as in previous years - only concerned items for information security. In the past year a total of 8 individual licences and 3 global licences were issued for exports in these categories.

The 8 individual licences had a combined value of 7.3 million euro and concerned exports of:

- symmetric algorithms for cryptographic systems (A002.a.1.a), destined for Ghana (1.5 million euro), Hong Kong (with end-use in China) (12,481.40 euro), Iraq (4,314,146.19 euro) and Pakistan (12,463 euro, 3,564 euro and 274,237 euro)
- specific software for information security systems (D002.c.1.a), destined for Pakistan (1,496.40 euro)
- combination of symmetric algorithms for cryptographic systems (A002.a.1.a) and specific software for information security systems (D002.c.1), destined for Russia (1.2 million euro).

The 3 global licences that were issued for exports of items for information security in 2011 had a combined value of a little more than 20 million euro. This is a significantly lower value than in previous years. In 2010, the 12 global licences for these items had a combined value of 323.1 million euro.<sup>II</sup>

The four global licences from 2011 concerned exports of:

- symmetric algorithms for cryptographic systems (A002.a.1.a) and corresponding specific software (D002.c.1), for potential recipients in 72 recipient countries<sup>III</sup> including China and Libya (10 million euro) and 6 recipient countries<sup>IV</sup> including Kazakhstan, Ukraine and Malaysia (10 million euro).

<sup>I</sup> Algeria, Argentina, Brazil, China, Colombia, 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.

<sup>II</sup> In 2007, 2008 and 2009 respectively, the global licences had a value of 480 million euro, 414.4 million euro and 540 million euro.

<sup>III</sup> Albania, Algeria, Andorra, Argentina, Bahrain, Bangladesh, Bolivia, Bosnia-Herzegovina, Brazil, Brunei, Cambodia, Chile, China, Colombia, Costa Rica, Croatia, Cuba, Dominican Republic, Ecuador, Egypt, El Salvador, Faroe Islands, Georgia, Guatemala, Guyana, Hong Kong, Iceland, India, Indonesia, Jamaica, Jordan, Kazakhstan, Kuwait, Kyrgyzstan, Lebanon, Libya, Liechtenstein, Macedonia, Malaysia, Maldives, Mexico, Monaco, Montenegro, Morocco, Nicaragua, New Caledonia, Oman, Panama, Papua New Guinea, Peru, Philippines, Qatar, Russia, Saudi Arabia, Senegal, Serbia, Singapore, South Africa, South Korea, Sri Lanka, Suriname, Taiwan, Thailand, Togo, Tunisia, Turkey, Ukraine, United Arab Emirates, Uruguay, Venezuela, Vietnam and Zambia

<sup>IV</sup> Hong Kong, Kazakhstan, Malaysia, Russia, Ukraine and Vietnam

- software for information security (D002.c.1) to 15 potential recipient countries<sup>I</sup>, including Georgia, Russia and South Africa (15,000 euro).

In 2010, a restriction with regard to end-users was imposed with regard to four global licences. These licences were for items and software for information security, with Algeria, Belize, Botswana, Burkina Faso, Egypt, Indonesia, Ivory Coast, Lebanon, Pakistan, Vietnam and Yemen as potential recipient countries. In 2011, no restriction with regard to end-users was imposed on global licences for exports of similar items and software; nevertheless, global licences were also issued for exports to Algeria, Indonesia, Lebanon and Vietnam.

#### 4.2.3.7 Sensors and lasers (CAT6)

In 2011, 17 individual licences were issued for exports of items from goods category “sensors and lasers” (CAT6). These individual licences had a combined value of 2.1 million euro and mainly concerned exports of *focal plane arrays* (a certain type of detector that is used for thermal imaging cameras) and imaging cameras with these items. In 2011, individual licences were issued for:

- *focal plane arrays* (A002.a.1.d) destined for Singapore but with end-use in the DRC (436,150 euro and 308,660 euro)
- *focal plane arrays* (A002.a.1.d) destined for Hong Kong but with end-use in China (35,000 euro)
- imaging cameras with *focal plane arrays* (A003.b.4.a) destined for China (56,000 euro), Turkey (26,966 euro) and Brazil (34,221 euro)
- imaging cameras with *focal plane arrays* (A003.b.4.a) destined for Hong Kong but with end-use in China (22,000 euro, 63,000 euro, 42,500 euro and 22,000 euro)
- imaging cameras with *focal plane arrays* (A003.b.4.b) destined for Belarus (5,800 euro), Chile (10,794,71 euro), Peru (2,985.28 euro) and Mexico (9,916.71 euro)
- lasers (A005.a.6.b) destined for India (270,000 euro and 108,000 euro)
- *focal plane arrays* (A002.a.1.d) and related production technology (E002) destined for Thailand (335,500 euro)

In addition to individual licences, a number of global licences were also issued for the same items. They concerned licences for exports of:

- *focal plane arrays* (A002.a.1.d) to 7, 69 and 78 potential recipient countries worldwide<sup>II</sup>
- imaging cameras with *focal plane arrays* (A003.b.4.a en A003.b.4.b) to 69 and 78 recipient countries worldwide<sup>III</sup>

<sup>I</sup> Argentina, Brazil, Croatia, Georgia, Hong Kong, Iceland, Macedonia, Mexico, Russia, Singapore, South Africa, South Korea, Taiwan, Turkey and Ukraine

<sup>II</sup> Based on these three licences, these types of focal plane arrays could be exported to any recipients in a total of 81 potential recipient countries (Albania, Algeria, Andorra, Angola, Argentina, Armenia, Azerbaijan, Bahrain, Belarus, Benin, Bosnia-Herzegovina, Botswana, Bouvet Island, Brazil, Burkina Faso, Cameroon, Cape Verde, Central African Republic, Chad, Comoros Islands, Croatia, Djibouti, Egypt, Equatorial Guinea, Ethiopia, Faroe Islands, Gabon, Gambia, Georgia, Ghana, Gibraltar, Greenland, Guinea Bissau, Iceland, Israel, Kazakhstan, Kenya, Kuwait, Kyrgyzstan, Latvia, Lesotho, Liechtenstein, Macedonia, Madagascar, Malawi, Mali, Mauritania, Mauritius, Mayotte, Moldavia, Monaco, Montenegro, Morocco, Mozambique, Namibia, Nigeria, Oman, Pakistan, Qatar, Republic of the Congo, Russia, San Marino, Sao Tomé E Príncipe, Saudi Arabia, Senegal, Serbia, Seychelles, South Africa, South Korea, Svalbard and Jan Mayen, Swaziland, Tajikistan, Tanzania, Togo, Tunisia, Turkey, Turkmenistan, Ukraine, United Arab Emirates, Uzbekistan, Vatican City, Western Sahara and Zambia)

<sup>III</sup> Based on these two licences, these types of imaging cameras could be exported to any recipients in a total of 78 potential recipient countries (Albania, Algeria, Andorra, Angola, Argentina, Armenia, Azerbaijan, Bahrain, Belarus, Benin, Bosnia-Herzegovina, Botswana, Bouvet Island, Brazil, Burkina Faso, Cameroon, Cape Verde, Central African Republic, Chad, Comoros Islands, Croatia, Djibouti, Egypt, Equatorial Guinea, Ethiopia, Faroe Islands, Gabon, Gambia, Georgia, Ghana, Gibraltar, Greenland, Guinea Bissau, Iceland, Israel, Kazakhstan, Kenya, Kuwait, Kyrgyzstan, Latvia, Lesotho, Liechtenstein, Macedonia, Madagascar, Malawi, Mali, Mauritania, Mauritius, Mayotte, Moldavia, Monaco, Montenegro, Morocco, Mozambique, Namibia, Nigeria, Oman, Pakistan, Qatar, Republic of the Congo, Russia, San Marino, Sao Tomé E Príncipe, Saudi Arabia,

- focal plane arrays (A002.a.3.d.1, A002.a.3.d.2.a and A002.a.3.c), and imaging cameras with *focal plane arrays* (A003.b.4.a) to 21 recipient countries<sup>1</sup>, primarily in Latin America

The Flemish authorities imposed no restrictions with regard to end-users in these global licences.

As with the individual licences, the global licences thus concerned *focal plane arrays* and imaging cameras. The high value of the global licences (178.3 million euro) is noteworthy considering that global licences for these types of dual-use items were not applied for very often in recent years. It appears that the Flemish company involved in exports of these items has applied for global licences to an increasing extent. In 2010, we observed the same trend of a shift from individually to globally licensed exports in the case of exports of items from the goods category "special materials and related equipment" (CAT1).

#### 4.2.3.8 Navigation and avionics (CAT7)

Licences for dual-use items belonging to the category "navigation and avionics" (CAT7) appear relatively seldom in Flanders. In 2011, no licences were issued in Flanders for these dual-use items. This category of items covers, for instance, receiving equipment for Global Navigation Satellite Systems and/or corresponding components.

#### 4.2.3.9 Marine (CAT8)

As in previous years, no licences were issued in Flanders 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 2011, 8 licences were issued for exports of items and technology for "aerospace and propulsion" (CAT9) which are subject to a licence obligation. This is noteworthy considering that, in the period since 2007, only on one occasion was an application for a licence submitted for items from this goods category. At the time (in 2007), this involved an individual licence for exports of a space launch vehicle to Russia worth 10.9 million euro. The licences in 2011, however, concerned other items and possibly indicate new activities by a Flemish company.

In total, six individual licences with a combined value of 53.5 million euro were issued for exports of unmanned aircraft (and/or related systems, equipment and components) (A012), launch support equipment (A115.a) and software for operating these items (D004.e), destined for Malaysia (131,940 euro), China (50,174,200 euro and 96,874 euro), Chile (43,980 euro), Ghana (164,520 euro) and South Africa (2,872,400 euro). Furthermore, an individual licence was also issued for exports of launch support equipment (A115.a) and software for operating unmanned aerial vehicles (D004.e), destined for Chile (24,050 euro).

The global licences issued in 2011 had a value of 152.5 million euro and concerned exports of unmanned aerial vehicles, associated systems, equipment and components (A012)

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Senegal, Serbia, Seychelles, South Africa, South Korea, Svalbard and Jan Mayen, Swaziland, Tajikistan, Tanzania, Togo, Tunisia, Turkey, Turkmenistan, Ukraine, United Arab Emirates, Uzbekistan, Vatican City, Western Sahara and Zambia)

<sup>1</sup> Argentina, Bolivia, Brazil, Chile, Colombia, Cuba, Ecuador, India, Mexico, Nicaragua, Panama, Paraguay, Peru, Russia, Singapore, South Africa, South Korea, Taiwan, Turkey, Ukraine and Uruguay

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

In addition to exports of items listed in Annex 1 of Regulation (EC) 248/2009, a catch-all clause is also included in Article 4 of this Regulation. In three clearly described situations a licence is also required for exports of 'free' products, namely:

- an export licence is required if the exporter is informed by the competent authorities of the Member State where it is established that the products concerned 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 recipient country is subject to an arms embargo decided by a common position or joint action adopted by the Council or a decision of the Organization 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)

In 2011, the Flemish authorities issued four individual licences for transactions that were subject to a licence obligation on the basis of the catch-all clause from Regulation 428/2009. They concerned 4 licences for exports to Iran with a combined value of 322,578 euro.<sup>1</sup> The specific products these related to were not indicated in the relevant report by the Flemish authorities.

## 4.3 Denied licence applications

In 2011, the Flemish authorities denied 10 applications for exports of dual-use items. These licence applications had a combined value of 904,162.40 euro, which is the highest value of denied licences since this data has been published.

Table 7: Overview of number and value of denied export licences for dual-use items, 2007-2011

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
2011	10	904,162.40

<sup>1</sup> In 2011, three exports to Iran were also denied on the basis of this catch-all clause (see Section 4.3).

Table 8: Overview of denied export licences for dual-use items, 2011

Recipient country	Nature of the goods	Total
United Arab Emirates (end-user in Iran)	Catch-all (Regulation 428/2009)	113,505.00
Iran	Catch-all (Regulation 428/2009)	2,380.00
Iran	Catch-all (Regulation 428/2009)	7,204.40
Iran	Certain heat exchangers or condensers with a heat-transfer surface area (Regulation 961/2010, Annex IV, A2.009)	145,294.70
Iran	Coldbox and coldbox equipment not specified in 2A1 (Regulation 961/2010, Annex VI., 2.A.3)	35,524.20
India	Materials for use as absorbers of electromagnetic waves (CAT1 C001.a)	150,000.00
India	Materials for use as absorbers of electromagnetic waves (CAT1 C001.a)	75,000.00
India	Materials for use as absorbers of electromagnetic waves (CAT1 C001.a)	75,000.00
India	Materials for use as absorbers of electromagnetic waves (CAT1 C001.a)	254.10
India	Isostatic presses (CAT2 B204)	300,000.00

The Flemish authorities did not deny any licence applications for transfers or exports of dual-use items to EU Member States, or to countries for which a CGEA applies, respectively. The denials all concerned applications for an individual licence for dual-use exports to India or Iran (see Table 8). The Flemish authorities did not indicate the underlying reason for these denied licence applications in their monthly report. In the past, explanations about denied licences to Iran and India always referred to the risk of nuclear proliferation.

The denied licence applications for exports to India concerned materials for use as absorbers of electromagnetic waves (CAT1 C001.a) and isostatic presses (CAT2 B204). The Flemish authorities also denied export licences to India in 2010.

Table 9: Overview of individual licences denied for exports to India, 2007-2011

Product	Licences	Value
Materials and devices for reduced observables (CAT1 C101)	2 licences in 2010	350,000.00
Materials for use as absorbers of electromagnetic waves (CAT1 C001.a)	4 licences in 2011	300,254.10
Isostatic presses (CAT2 B204)	1 licence in 2011	300,000.00

The denied exports to Iran concerned items the export of which is subject to a licence obligation as a result of additional restrictive measures applying to that country. More specifically, they involved a denied licence for exports of coldbox and/or coldbox equipment (Regulation 961/2010); certain types of heat exchangers (Regulation 961/2010), and 'free' products that in part or full can be used



for the development, production or use of weapons of mass destruction (subject to a licence obligation on the basis of the catch-all clause (Article 4) of Regulation 428/2009<sup>i</sup>, see Chapter 5).

In recent years, 14 licences with a combined value of 1.7 million euro were denied for exports of dual-use items to Iran. Eleven of these denials related to exports of products listed in Annex I of Regulation 1334/2000 and 428/2009 or exports subject to a licence obligation on the basis of the catch-all clause of these Regulations (see Table 10). The three other denials were the result of restrictive measures applying to the country (see Table 11 in Chapter 5).

*Table 10: Overview of individual licences denied (on the basis of Regulations 1334/2000 and 428/2009) for exports to Iran, 2007-2011*

Product	Licences	Value
Equipment specially designed or produced for factories, specially designed for the manufacture of fuel elements for nuclear reactors (CAT0 B005)	1 licence in 2007	421,235.00
X-ray tomography systems for three dimensional defect inspection (CAT1 B001.f.1)	1 licence in 2008	697,000.00
Catch-all clause	1 licence in 2007	64,600.00
Catch-all clause	1 licence in 2008	5,007.90
Catch-all clause	1 licence in 2009	108,000.00
Catch-all clause	3 licences in 2010	43,851.40
Catch-all clause	3 licences in 2011 <sup>ii</sup>	123,089.40

<sup>i</sup> Article 4.1 states that for exports 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 it is located 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 for the development, production, maintenance or storage of missiles capable of delivering such weapons. In the relevant report, the Flemish authorities do not indicate the specific items concerned in these three denied licences.

<sup>ii</sup> One licence concerned exports to U.A.E. but with end-use in Iran (see Table 8).

## 5 Restrictive measures on Iran (EC 423/2007 and EU 961/2010)

Various sanctions have been imposed on Iran by the international community in previous years to prevent the development of nuclear weapons. Areas 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 were imposed on military materials and dual-use items. Council Regulation **(EC) 423/2007** of 19 April 2007, relating to restrictions against Iran, prohibited exports of certain products<sup>1</sup> to Iran and established a licensing requirement for a range of other products and technologies.<sup>5</sup> The licences issued as a result of Regulation (EC) 423/2007 in Flanders related to exports of goods and 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”.<sup>6</sup>

In October 2010, the restrictive measures with respect to Iran were further strengthened. Following Resolution 1929 of the UN Security Council, the Council of the European Union replaced Regulation 423/2007 with Regulation **(EU) 961/2010** which included additional restrictive measures against Iran. This regulation was immediately applicable in the EU Member States and replaced Regulation 423/2007. Based upon Regulation 961/2010, direct and indirect trade with Iran is forbidden for all dual-use items and technology listed in Annex I of Regulation 428/2009 (with the exception of CAT5), and for the items and technology listed in Annex II of Regulation 961/2010. Further, Regulation 961/2010 also creates a licensing obligation for the items listed in Annex IV of this regulation. More specifically, this concerns 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 pursuit of activities related to other topics about which the IAEA has expressed concerns or has identified as outstanding

Further, the offer of technical assistance or brokering services for goods from Annex I and from Annex IV of Regulation 961/2010 is also prohibited, and subject to a licence obligation, respectively.

In 2011, two exports were denied on the basis of Regulation 961/210. They concerned exports of items for materials processing (heat exchangers) and equipment for liquefying natural gas (coldbox or coldbox equipment). Also in 2010, the export of seals and gaskets to Iran was denied on the basis of Regulation 423/2007.

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<sup>1</sup> Including all materials and technology in the lists of the Nuclear Suppliers' Group and the Missile Technology Control Regime.

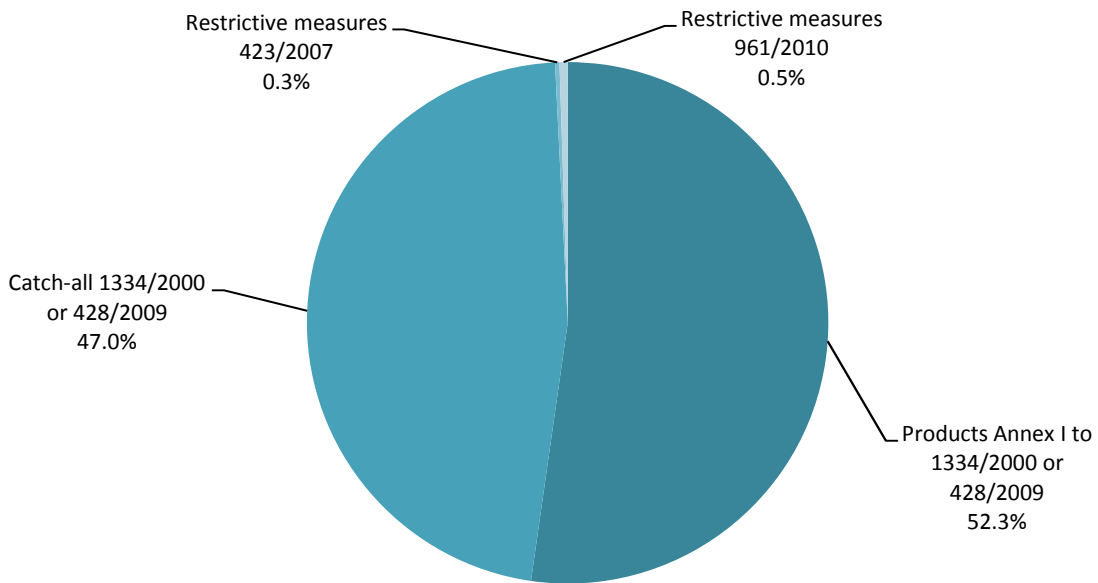
Table 11: Overview of individual licences denied (on the basis of Regulations 1334/2000 and 428/2009) for exports to Iran, 2007-2011

Product	Licences	Value
<b>Regulation 423/2007</b>		
- Seals and gaskets (Annex II, A1.003)	1 licence in 2010	92,209.16
<b>Regulation 961/2010</b>		
- Certain heat exchangers or condensers with a heat-transfer surface area (Regulation 961/2010, Annex IV, A2.009)	1 licence in 2011	145,294.70
- Coldbox and coldbox equipment not specified in 2A1 (Regulation 961/2010, Annex VI., 2.A.3)	1 licence in 2011	35,524.20

In 2011, one export was also approved which was subject to a licence obligation on the basis of additional restrictions against Iran. More specifically, it related to exports of certain types of heat exchangers (IV.A2.009) and certain types of ring-shaped seals and gaskets (IV.A1.003) subject to a licence obligation on the basis of Regulation 961/2010. This licence had a value of 122,397.65 euro.

Exporting dual-use items from Flanders to Iran was not straightforward even before the introduction of restrictive measures in 2007. For instance, in early 2006 there was a great deal of controversy about exports of isostatic presses to Iran (the "EPSI" affair), and various export files were not processed for a long while.<sup>7</sup> Licensed exports of dual-use items to Iran, however, are not so exceptional. The Flemish authorities have issued 42 licences for exports of dual-use items to Iran since 2007. These exports never occurred on the basis of a global licence, but always with individual licences, and thus the applications were for specific transactions. The licences issued had a combined value of 24.6 million euro. Most licences were issued for exports of items listed in Annex I of Regulation 428/2009 (and prior to that in Regulation 1334/2000); for instance, components of chemical manufacturing equipment, precursors of toxic chemicals and plant pathogens. These licensed exports had a value of 12.8 million euro, but are no longer possible since the adoption of Regulation 961/2010.

Figure 2: Distribution of the value of licensed exports to Iran based upon procedure



In addition to exports of items listed in Annex I of Regulation 428/2009, in recent years other items were also subject to a licence obligation. Firstly, this occurred under the catch-all clause of Regulations 1334/2000 and 428/2009. These licences concerned exports with a value of 11.5 million euro, but it is not known precisely which items they covered. Secondly, this also occurred as a result of the aforementioned additional restrictive measures against Iran (Regulations 423/2007 and 961/2010), in the case of some equipment exports as well as items for materials processing (such as certain types of heat treatment furnaces and pumps). In the framework of the additional restrictive measures, these licences concerned exports with a value of 191,558 euro.

Table 12: Overview of individual licences denied for exports to Iran, 2007-2011

Product	Licences	Value
<b>Regulations 1334/2000 and 428/2009</b>		
- Lubricating materials containing, as their principal ingredients, phenylene or alkylphenylene ethers or thioethers (CAT1 C006.b.1)	1 licence in 2010	5,871.67
- Aromatic polyamide-imides (CAT1 C008.a.2)	1 licence in 2009	100.00
- Bacteria (CAT1 C354.b)	1 licence in 2010	546.00
- Methyldiethanolamine (CAT1 C450.b.8)	7 licences in 2008	10,496,960.00
- Methyldiethanolamine (CAT1 C450.b.8)	3 licences in 2009 <sup>I</sup>	1,615,684.00
- Methyldiethanolamine (CAT1 C450.b.8)	1 licence in 2010	698,000.00
- Pumps for chemical production equipment (CAT 2 B350.i)	1 licence in 2009	2,500.00
- Gyros and angular rate sensors for navigation and aircraft electronics (CAT7 A002)	2 licences in 2009	10,850.00
- Catch-all according to Article 4	1 licence in 2007	32,309.51
- Catch-all according to Article 4	2 licences in 2008	6,336,561.64
- Catch-all according to Article 4	1 licence in 2009	19,783.20
- Catch-all according to Article 4	4 licences in 2010	5,143,061.40
- Catch-all according to Article 4	4 licences in 2011	322,578. 40
<b>Regulation 423/2007</b>		
- Seals and gaskets (Annex II, A1.003)	2 licences in 2009 <sup>II</sup>	5,175.27
- Seals and gaskets made of viton fluoro-elastomers (II.A.1.003.e)	6 licences in 2009	54,844.00
- Seals and gaskets made of polytetrafluoroethylene (II.A.1.003.f)	1 licence in 2008	564.24
- Seals and gaskets made of polytetrafluoroethylene (II.A.1.003.f)	1 licence in 2009	377.49
- Heat treatment furnaces capable of operating at temperatures above 400°C (II.A.2.005)	1 licence in 2008	7,299.25
- Pumps suitable for corrosive liquids (II.A.2.010)	1 licence in 2010	900.00
<b>Regulation 961/2010</b>		
- Heat exchangers (IV.A2.009) and ring-shaped seals and gaskets (IV.A1.003)	1 licence in 2011	122,397.65

<sup>I</sup> One licence concerned exports to the U.A.E. but with end-use in Iran (698,320 euro).

<sup>II</sup> One licence concerned exports to the U.A.E. but with end-use in Iran (2,300.33 euro).

# 6 Conclusions

Dual-use items are products and technologies that were not developed specifically for military purposes but may have a military application. Exports of these dual-use items from Flanders are regulated by EC Regulation 428/2009, which is directly applicable throughout the European Union. Every month, the Flemish authorities' Strategic Goods Monitoring Unit publishes an overview of licences issued and denied for intra-Community transfer and exports of dual-use items. This report analyses licences that the Flemish authorities issued and denied in 2011.

## **1. The nature of procedures makes it difficult to determine characteristics and trends**

A first important remark is that it is very hard to identify key features and trends in dual-use exports. As no licence is required for most of these items (free movement of goods), we have only a limited view of intra-Community transfer of dual-use items to EU Member States. We also have only a limited view of exports of dual-use items to seven specific countries (Australia, Canada, Japan, New Zealand, Norway, Switzerland, and the United States), since a community general export authorisation (CGEA) applies for most of these items and no Flemish export licence need be applied for. While we are thus underestimating trade flows of dual-use items to the EU and the seven specific CGEA countries by using data from the Strategic Goods Monitoring Unit, we may be at risk of actually overestimating exports of these items to other countries. This is because these exports occur to a significant extent on the basis of global licences with which a Flemish exporter can export a number of predetermined items to countries that are included in the licence. Data from the global licences - even more so than individual licences - is related to potential exports instead of specific transactions. The value of global licences is a sum total of maximum amounts that are significantly higher than the value of actual exports of dual-use items under these licences. These various factors mean that it is not possible to offer a precise breakdown of dual-use exports according to the nature and destination of the items.

## **2. 138 individual and 44 global licences were issued in the past year**

In view of the different procedures, we distinguish here between licences for (1) intra-Community transfer, (2) exports to countries for which a CGEA applies, (3) exports to other countries, and (4) exports to Iran which are subject to a licence obligation as a result of restrictive measures.

### *Intra-Community transfer*

Since no licence is required for the transfer of most dual-use items to other EU Member States, the total scale of transfers of dual-use items from Flanders cannot be estimated on the basis of licences granted. In 2011, the Flemish authorities issued 15 individual licences for exports of nuclear materials (CAT0) - mainly fissile materials, but also facilities and equipment for nuclear reactors - and enriched lithium (CAT1). These licences concerned items with a value of 55.6 million euro. A global licence with a value of 10 million euro was also issued for exports of materials for use as absorbers of electromagnetic waves (CAT1). No licence application for intra-Community transfer of dual-use items was denied.

### *Exports to countries for which a CGEA applies*

Because a CGEA applies for exports of most dual-use items to Australia, Canada, Japan, New Zealand, Norway, Switzerland and the United States, it is also difficult to estimate the total scale of dual-use exports to these seven countries. In 2011, 21 licences were issued for exports for which a specific Flemish licence was actually required. These concerned individual licences for exports of nuclear materials (CAT0), special materials (CAT1) and items for materials processing (CAT2) with a value of 7.2 million euro. No licence application for exports to these seven countries was denied.

### *Exports to other countries*

In 2011, 97 individual licences and 43 global licences were issued for exports of dual-use items listed in Annex I of Regulation 428/2009 to other countries.

Individual licences mainly concerned exports of electronics (CAT3), items for aerospace and propulsion (CAT9) and special materials and related equipment (CAT1). With a combined value of 149.6 million euro, the value of individual licensed exports in 2011 was significantly higher than in previous years. However, given that a large proportion of these items were also exported from Flanders on the basis of global licences, this does not necessarily signify a sharp increase in exports of dual-use items to other countries.

The combined value of the 43 global licences issued by Flanders in 2011 amounted to 471.8 million euro: the same order of magnitude as in 2010. However, what this reflects is not the actual dual-use exports under global licences, but the upper limit of the licences' aggregate value (see above). Further, only minor differences may be seen between individual and global licences in terms of the nature of the items (within the various goods categories) and geographical location of the recipient countries.

In 2011, individual licences were issued not only for exports of items listed in Annex I of Regulation 428/2009, but also for items subject to a licence obligation on the basis of restrictive measures enacted by the European Union vis-à-vis Iran (see below), and for exports of items for which the Flemish authorities invoked the European catch-all clause of Regulation 428/2009 (Article 4). In the past year, 4 licences with a combined value of 322,578 euro were issued for exports to Iran on the basis of this catch-all clause. The nature of the items was not indicated in the reports from the Strategic Goods Monitoring Unit.

### *Exports to Iran subject to licensing because of restrictive measures*

In recent years, various restrictive measures regarding trade with Iran have been introduced in view of concerns that the country is seeking to develop nuclear weapons. Given that exports of dual-use items are subject to licensing precisely because of the potential use of these items for developing weapons of mass destruction, it is only logical that these restrictive measures also relate to exports of dual-use items. These restrictive measures are laid out in Regulations 423/2007 and 961/2010. According to the latter Regulation, direct and indirect trade with Iran is forbidden for all dual-use items and technology listed in Annex I of Regulation 428/2009 (with the exception of CAT5), and a licence obligation has been introduced for items and technology listed in Annex II and Annex IV of Regulation 961/2010. Based on this Regulation, in the past year the Flemish authorities invoked a licence obligation for a wider range of exports. Two exports were denied in 2011. One export - of certain types of heat exchangers and ring-shaped seals and gaskets with a value of 122,397.65 euro - was allowed.



Prior to Regulation 691/2010, there was nothing exceptional about exports of dual-use items from Flanders to Iran: 42 licences with a combined value of 24.6 million were issued for exports of dual-use items to Iran from 2007 onwards. These licences concerned items listed in Annex I of Regulation 428/2009 – which accordingly may no longer be approved - as well as exports subject to a licence obligation on the basis of the catch-all clause and on the basis of restrictive measures with regard to Iran (Regulations 423/2007 and 961/2010).

### **3. Limited range of items and limited group of companies concerned**

Thirdly, we can establish that licences for intra-Community transfer and exports for the majority of goods categories relate to a rather limited range of items. Within the goods category of nuclear materials (CAT0) they concern natural/depleted uranium, thorium, deuterium/heavy water and special fissile materials. Within the goods category materials processing (CAT2) they relate to coordinate-measuring machines, isostatic presses, components of chemical production equipment, and testing equipment and corresponding software. Within the goods category electronics (CAT3) it is a question of integrated circuits, signal analysers, hetero-epitaxial materials, *resists*, organic compounds, and technology for the development or production of electronics subject to a licence obligation. Within the goods category information security (CAT5) the items concerned are symmetric algorithms for systems and software for information security systems; within the goods category sensors and lasers (CAT6), *focal plane arrays*, imaging cameras with *focal plane arrays* and related technology; and within the goods category aerospace and propulsion (CAT9), unmanned aerial vehicles and accompanying launch support equipment and software. Only among exports of items from the category 'special materials and related equipment' (CAT1) do we note a broader range of products.

Considering the rather limited range of items, Flemish dual-use exports are probably conducted by a relatively limited group of companies. In contrast to the Flemish defence-related industry<sup>8</sup>, however, no overview of the scale and nature of dual-use companies has been available up to the present. A number of (quasi-)identical licences, mainly global, are issued every year. By way of illustration, both in 2010 and 2011 a global licence was issued for exports of symmetric algorithms for cryptographic systems and related software to the same 72 recipient countries (with one exception). Thus, a number of companies usually apply for the same global licences every year. While a certain stability can be seen in the scale of dual-use exports, the licences granted in 2011 for exports of unmanned aircraft and related equipment and software point to the development of new dual-use activities in Flanders. Continuous monitoring of the activities of the dual-use industry is thus needed in order to be able to conduct an effective export control policy.

### **4. Increase in restrictions on end-users for global licences**

Fewer global licences for exports of dual-use items were issued in 2011 than in 2010. Last year, however, the average number of recipient countries per licence (16.8 countries) was significantly higher than in previous years (approximately 11.5 countries). This potentially has significant consequences for control of the end-use of Flemish dual-use items. Global licences, in contrast to individual licences, do not relate to a specified individual transaction, but in principle allow a Flemish exporter to export a number of pre-specified products to all countries included in the licence, so long as the value of exports stays within the value of the licence. Because of this, the risk of undesirable end-use is higher for global licences than for individual licences. With a view to

avoiding undesirable end-use, the Flemish authorities more frequently impose a restriction on possible end-users and recipient countries for a number of global licences.

In 2011, a restriction with regard to end-users was imposed on 17 global licences. These restrictions were mainly imposed on certain types of dual-use exports: namely materials for use as absorbers of electromagnetic waves and aromatic polyamide-imides (generally for recipient countries in the Far East), and sodium cyanide (for African recipient countries). Such end-user restrictions were imposed only on exports of items from the goods category 'special materials and related equipment' (CAT1), and thus not on global licences for exports of - for instance - sensitive nuclear materials (deuterium/heavy water), components of chemical production equipment (specifically distillation and/or absorption columns) or imaging cameras with *focal plane arrays*. These latter products can therefore be exported to all users in countries listed in the global licence (often dozens of countries). It is not clear to what extent the Flemish authorities effectively monitor the end-use of items exported under global licences in general, and compliance with its imposed restrictions in particular.

### ***5. Highest ever value of denied licences***

In 2011, the Flemish authorities denied 10 licences for exports of dual-use items. With a combined value of 904,162 euro, this was the highest value of dual-use exports ever denied since the Strategic Goods Monitoring Unit started publishing its monthly reports in 2007. Five licences concerned exports of materials for use as absorbers of electromagnetic waves and isostatic presses destined for India. The other five licences concerned dual-use exports to Iran. Two cases concerned exports of items subject to a licence obligation on the basis of Regulation 961/2010, and three concerned exports of 'free items' on the basis of the catch-all clause of Regulation 428/2009. The Flemish authorities had also denied several export licences for dual-use items destined for India and Iran in the past.

# End notes

- <sup>1</sup> Duquet, N., *Flemish foreign arms trade 2011*, Brussels: Flemish Peace Institute.
- <sup>2</sup> <http://www.vlaanderen.be/wapenhandel>
- <sup>3</sup> Act of 5 August 1991 on the import, transit and export of and against the illegal trade of arms, ammunition and equipment specifically designed for military use or law enforcement and associated technology, as last amended on 26 March 2003.
- <sup>4</sup> Council Regulation 428/2009 of 5 May 2009 setting up a Community regime for the control of exports, transfer, brokering and transit of dual-use items,  
<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2009:134:0001:0269:en:PDF>
- <sup>5</sup> Council Regulation (EC) No 423/2007 of 19 April 2007 concerning restrictive measures against Iran.  
[http://trade.ec.europa.eu/doclib/docs/2010/august/tradoc\\_146397.pdf](http://trade.ec.europa.eu/doclib/docs/2010/august/tradoc_146397.pdf)
- <sup>6</sup> Article 3.2 of Council Regulation (EC) No 423/2007 of 19 April 2007 concerning restrictive measures against Iran.  
[http://trade.ec.europa.eu/doclib/docs/2010/august/tradoc\\_146397.pdf](http://trade.ec.europa.eu/doclib/docs/2010/august/tradoc_146397.pdf)
- <sup>7</sup> Vanbrussel, E., Honderden exportdossiers zitten vast bij Moerman, *De Morgen*, 21 March 2006.
- <sup>8</sup> Duquet, N., *Made in Flanders: the end-use of Flemish military equipment*, Brussels: Flemish Peace Institute, p.39-52.

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