



CBI  
*Ministry of Foreign Affairs*

# **CBI Product Factsheet:**

## **Value-added bamboo products in Europe**

## Introduction

Bamboo has been increasingly used as a substitute for tropical timber in the European market. Value-added bamboo products are becoming popular due to their characteristics of durability and strength, which resemble the qualities of tropical wood, while providing a more sustainable alternative. The European market offers great opportunities to exporters from developing countries and it is recommended that they focus on competitive prices and sustainability certifications.

## Product definition

Bamboo is considered a grass due to its fast growing period - it can be re-harvested every 3-5 years. It combines durability and strength, while being dent resistant and eco-friendly. Bamboo is native to China, but is widely cultivated in other regions such as Japan, Ecuador, Colombia, Chile, Mexico and New Zealand. Additionally, it can be found in North America and in regions around Africa. It grows mainly in China, but it can be easily purchased in Europe. Bamboo is increasingly used as a substitute for hardwood, since it provides an environmentally-sound proposition. In this factsheet, value-added bamboo products refer to flooring, kitchen panels and decking made of bamboo.

## Classification of value added bamboo products:

### Harmonised System (HS)

Within the EU / EFTA, the following HS codes are used to indicate trade in value-added bamboo products:

4409.21: Bamboo, including stripes and friezes for parquet flooring, not assembled, continuously shaped 'tongued, grooved, rebated, chamfered, V-jointed beaded, moulded, rounded or the like' along any of its edges, ends or faces, whether or not planed, sanded or end jointed

4412.10: Veneer panels and similar laminated wood, of bamboo, not containing particle board and without blockboard (excl. plywood, sheets or compressed wood, hollow-core composite panels, parquet panels or sheets, inlaid wood and sheets identifiable as furniture components)

## Product specification

Product specifications	Flooring	Decking	Kitchen panels
			
Uses	Floors in hotels, houses, schools, offices, restaurants	Outdoor spaces such as gardens, swimming pools, terraces, public areas	Kitchen cabinets, countertops, ceiling, wall decoration
Panel dimensions	<ul style="list-style-type: none"> <li>1850 x 96 x 14 mm</li> <li>1850 x 130 x 14 mm</li> <li>1850 x 125 x 14 mm</li> <li>1920 x 96 x 15 mm</li> <li>960 x 96 x 15 mm</li> <li>915 x 125 x 14 mm</li> </ul>	<ul style="list-style-type: none"> <li>2200 x 140 x 20 mm</li> <li>1860 x 140 x 20 mm</li> </ul>	<ul style="list-style-type: none"> <li>2440 x 1220 x 5 mm</li> <li>2440 x 1220 x 12.7 mm</li> <li>2440 x 1220 x 19 mm</li> <li>2440 x 1220 x 25 mm</li> <li>2440 x 1220 x 30 mm</li> <li>2440 x 1220 x 40 mm</li> </ul>
Colours	Natural, Carbonised, Tiger, Caramel, Chocolate, Grey	Carbonised (dark or black), Caramel	Natural, Carbonised, Chocolate
Grains	Horizontal or Vertical or Strand Woven	N/A	Horizontal or Vertical or Strand Woven

<b>Hardness</b>	1100 - 1300 per Janka scale	3000 per Janka scale	N/A
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### Packaging and transportation:

Minimum standards for packaging and packaging waste are included in Directive 94/62/EC. The objective of the Directive is to ensure environmental protection on the one hand, and a guarantee of free trade within the single EU market (i.e. no indirect protective measures) on the other. See the CBI document: [EU legislation: Packaging and packaging waste](#).

Regulations of bamboo packaging material in international trade are analysed in the document for International Standards for Phytosanitary measures ([ISPM 15](#)). The scope of the regulation is to introduce measures in order to reduce the risk of pest spread associated with the packaging material of raw bamboo. An important aspect of the packaging regulation is the requirement of kiln drying.

- Types of packaging
  - If the density of your bamboo product is very high, and the volume of the order is low, it is recommended that 20'GP containers are used. If the volume is large, it is recommended that 40'GP containers are used.
  - Bundled decking: random length boards bundled in average length bundles.
  - Nested decking: random length boards bundled continuously end to end.

Orders are usually transported and counted by the number of containers (20ft or 40ft). Dry Cargo Containers defined as 20'GP (general container), 40'GP and 40'HQ (high cube) are usually used for shipment.

### Labelling:

Labels for bamboo products should include the following information:

- Information describing the product
- Country of harvest
- Quantity (given in net weight)
- Details of the supplier (name of company, supplier's name)
- Information on compliance with national legislation
- Information on sustainability labels.

## Buyer Requirements

Figure 1: Buyer requirements



## Requirements you must meet

### General Product Safety

The [General Product Safety Directive](#) applies to all consumer products. The obligation to comply will be primarily the responsibility of the EU companies that place the finished product on the market. However, they will often ask their suppliers to comply with the given requirements.

#### Tip:

- To get a better understanding of reasons behind the confiscations of products by EU customs authorities, refer to the EU's [RAPEX database](#). Try and identify the most common forms of non-compliance by suppliers to the EU and evaluate your own risks. This strategy can serve as a basis for you to correct any supply inconsistencies before accessing the EU market, thus avoiding rejection at the border.

### CE-marking for bamboo products used in construction

Bamboo products that are permanently incorporated into construction works (e.g. flooring, decking) will have to be CE-marked. This shows that the products comply with harmonised requirements regarding mechanical resistance, stability, safety in case of fire, hygiene and the environment. Since July 2013, manufacturers of finished construction products need to provide a [declaration of performance](#) (DoP). The CE requirement only applies to you if you are a DC supplier of finished decking panels to the EU. As a supplier of parts, you will only have to provide information about the essential characteristics of your product to your buyer.

#### Tips:

- For an explanation what the essential characteristics of products are see Chapter 1.3 of the [Manufacturer's Guideline to the Construction Product Regulation and its Implementation](#).
- For an example of declaration of performance of a timber company, refer to the [website](#) of Swedish timber supplier Wood Support.
- Read more about [CE marking of construction products](#) refer to the EU Export Helpdesk.

### EU Timber Regulation (EUTR)

#### Checking the legal origin of timber:

All timber imported into the EU must come from verifiable legal sources. EU buyers that place timber or timber products on the market must demonstrate [due diligence](#). In addition, the EUTR requires operators to trace their products back to the source. This means that, when suppliers supply legal timber but cannot provide well-documented guarantees of legality, they will not be able to access the EU market.

Although bamboo is not a wood species, it can be considered as such. This is why some bamboo products such as flooring and panels have been included in the EUTR. Nevertheless, industry sources indicate that bamboo should not fall under the EUTR, which would differentiate it from timber.

The recent implementation of EUTR has created some confusion and several contradictions. However, until there is no uncertainty regarding the properties of bamboo, bamboo products marketed in the EU must demonstrate legality credentials.

#### Tips:

- If you intend to sell / continue to sell to the EU market, keep in mind that legality assurances are an essential aspect of trade, together with price and quality. For more information, refer to the [Guidance Document for the EUTR](#).
- The EUTR only tackles the problem of timber / bamboo legality, but it does not directly address the problem of sustainability. Refer to 'Niche requirements' for more information on sustainable forest management.
- Read more about [control on illegal timber and timber products](#) in the EU Export Helpdesk.

## Chemicals in bamboo

Preservatives such as urea- formaldehyde (UF) are used in the adhesive for bonding bamboo strips, but some of them might be prohibited in the EU. The only exceptions include bamboo used in industrial installations.

### Tip:

- For more information on bamboo products that do not contain formaldehyde, refer to the [GreenSpec Directory](#).

All the EU chemical restrictions are mentioned in the **EU REACH** (Registration, Evaluation and Authorisation of Chemicals) regulation. Different products that may contain harmful substances, such as oils, varnish and lacquer are regulated. Bamboo products treated with certain substances may not be imported.

This legislation does not apply outside the EU, but buyers are increasingly implementing sustainable practices in their own companies and in their supply chains. Therefore, they can ask you to also comply with these requirements regarding the use of chemicals during processing and production (e.g. volatile organic compounds [VOCs] released from the use of urea-formaldehyde).

### Tips:

- Ask buyers whether they have specific policies concerning chemicals and what their specific requirements towards suppliers are.
- Refer to the EU website on reduction of emissions and substitution of solvents to learn more about how to reduce VOCs.
- Refer to the [EU website on reduction of emissions and substitution of solvents](#) to learn more about how to reduce VOCs.
- To find more about restrictions on specific substances refer to Annex XVII of [Registration, Evaluation and Authorisation of Chemicals \(REACH\)](#). In addition, refer to the website of EU to read more about REACH.

## Common requirements

### Corporate responsibility

Companies are also addressing issues other than the sustainability of their raw materials. EU buyers (especially those in western and northern EU countries) are increasingly paying attention to their corporate responsibilities regarding the social and environmental impact of their businesses. This also affects traders and processors. Important issues are respect for indigenous rights, owner's rights, environmental performance, respecting labour laws and healthy and safe working conditions. Many European companies in the timber sector have policies addressing these issues. Part of these policies can be to ask their suppliers to address sustainability issues. They can ask them to abide by a code of conduct or sign supplier declarations to ensure compliance with applicable local laws and regulations, industry minimum standards, the [International Labour Organisation \(ILO\)](#) and UN Conventions.

### Tips:

- Refer to the [Less Dust Guide](#) from the European Federation of Building and Woodworkers to reduce bamboo dust in the workplace.
- Ask your EU buyer about its supplier policy with regard to labour standards. Do not forget to find out how these standards should be monitored and/or evaluated.
- It is possible to implement sustainability certification for continuous process improvement: [ISO 14000](#) (environment), [OHSAS 18001](#) (health and safety) and [SA8000](#) (labour standards).

### Standards Map of the ITC

Check the International Trade Centre's [Standards Map](#), an online tool which provides comprehensive information on over 130 voluntary sustainability standards and other similar initiatives, covering issues such as codes of conduct relevant to your product, reviews the main features of the selected standards and codes and compares standards' requirements side-by-side. Furthermore, you can assess your company's performance against standard requirements in a self-assessment

module and generate your own company's 'sustainability diagnostic report', which you can then share with the business community.

## Niche requirements

### Sustainable forest management

Bamboo is considered to be one of the most sustainable 'timber' species, mostly because its growth speed is at least 5 times higher than that of hardwood. Bamboo can be harvested without the need to replant because the root system is left intact when it is harvested. At the same time, its root structure has the ability to hold the soil in place preventing erosion. Finally, in its natural environment it will need no irrigation, no pesticides, and no fertiliser.

However, bamboo has increasingly been associated with deforestation of forest lands. Because of its growing popularity, farmers are cutting down trees, converting the land into bamboo plantations. This can prove very damaging for the environment and local communities, contributing to global deforestation and soil erosion.

This is why FSC certification has expanded, to incorporate bamboo forests and bamboo products, and ensure their sustainable harvesting. At the moment, PEFC is not including bamboo in its range of certifiable products. Awareness regarding sustainability issues for bamboo is increasing. Therefore several European companies have started offering FSC bamboo certified products.

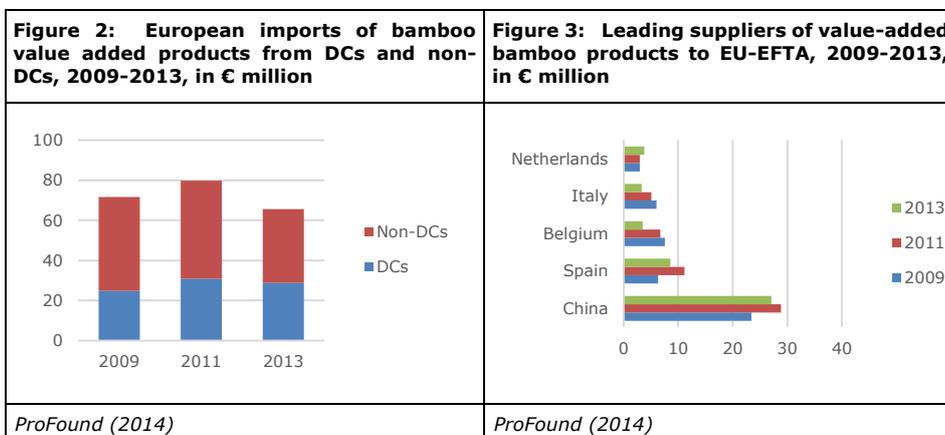
#### Tips:

- To get a better understanding of what sustainable forest management is, refer to principles and guiding criteria of [FSC](#).
- Please be aware that as a supplier of sustainably certified bamboo, you will need to obtain a Chain-of-Custody (CoC) certificate. For the same reason, only target buyers that have a CoC-certificate. Non-certified buyers are not allowed to sell certified bamboo.

## Trade and Macro-Economic Statistics

This section presents an analysis of the value-added bamboo products in Europe. For production and consumption developments, Eurostat provides data only for 2013 and only for a few European countries. Therefore, production and consumption analysis for value-added bamboo products will not be presented, since it conveys a distorted picture of the market.

For import and export developments, data from Eurostat were extracted specifically for the HS codes 4409.21 and 4412.10.



### European imports demonstrate slight fluctuations:

Between 2009 and 2013, European imports decreased moderately, amounting to € 65 million in 2013. More specifically, after a minor increase in imports between 2009 and 2011, imports of value-added bamboo products decreased in 2013. The figure also shows that imports from developing countries represent more than 40% of the total import value. With the

majority of the bamboo production taking place in China, this country is by far the largest supplier of bamboo products to Europe. Another DC supplier whose importance is increasing is Chile. It represents only 2.1% of the bamboo supplies to Europe, but its share has been growing rapidly since 2009. Other DC suppliers include Indonesia, Malaysia and Gabon, but their shares are marginal.

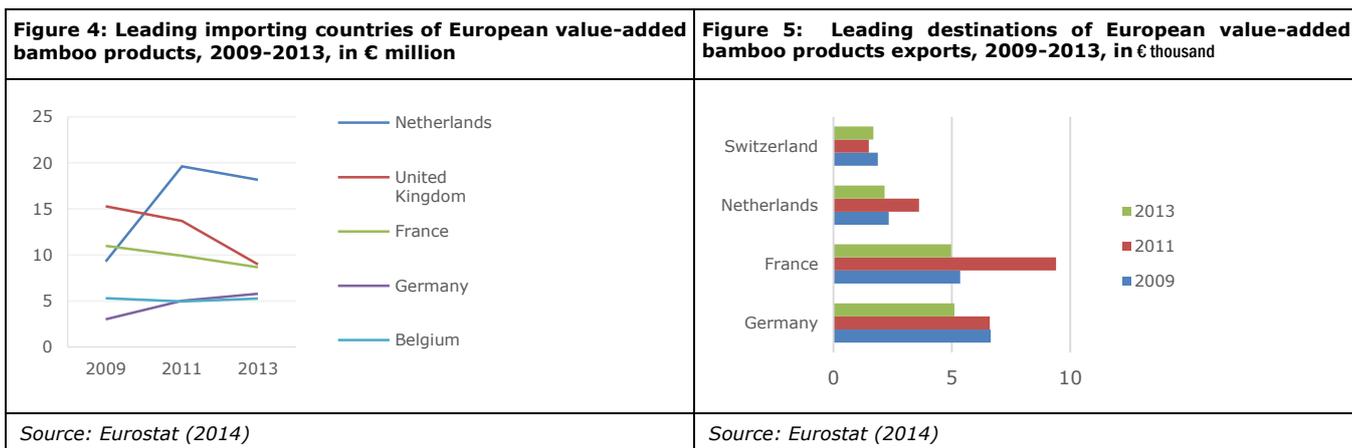
**Tip:**

- China plays a very important role in the production of bamboo products. However, Chinese exports are of lower quality, mostly due to mechanised mass-production and lower labour costs. This means that in order to be at a competitive advantage, it is highly recommended that you focus on differentiating your product (variety of finishing, bamboo's natural properties).

Imports of value-added bamboo products are mostly directed to countries in North-West Europe, including the Netherlands, the UK, France and Germany (Figure 4). The Netherlands is shown to be the primary target of bamboo products, accounting for 28% of the total European imports.

**Tip:**

- It has been recommended that DC exporters of value-added bamboo products target Northern Europe which accounts for the majority of the European imports. To enter such a market, differentiating your product will be essential.



**European exports of bamboo products**

fluctuated moderately, amounting to € 23 million in 2013, registering a 7% annual decrease. More specifically, after a slight increase between 2009 and 2011, European exports decreased significantly. This occurred between 2011 and 2013. Bamboo products produced or processed within the European borders were destined for other mature markets in Europe, mainly to Germany and France. In fact, exports to these two countries represent more than 40% of the total export value, with exports destined for developing countries representing only 8%. These exports are directed to China and increasingly to Angola.

**Tip:**

- Make sure to monitor the market developments in the European timber industry. [Annual reports](#) on the price developments for tropical timber are available on the ITTO website.

**Market Trends**

**Providing a sustainable alternative**

Europe is one of the main drivers of sustainability and has been among the frontrunners when it comes to implementation of laws and regulations concerning sustainability. The growing utilisation of bamboo presents a solution to the controversial use of tropical timber. Though the use of tropical timber is associated with some unique features, such as durability and rot resistance, it is also associated with illegal logging and deforestation. In this respect, bamboo is presented as a much

more sustainable solution, mainly because of its fast growing speed. As such, it is considered a renewable material and is being marketed in the European market in this manner. Since the 1990s, bamboo products have been successfully substituting tropical timber products, creating a great demand for bamboo imports.

Nevertheless, the use of bamboo has also been associated with some negative effects, such as soil erosion and deforestation due to land use conversion. Therefore, FSC-certified bamboo is available and is increasingly becoming popular as a strategy to tackle these sustainability issues.

**Tips:**

- Consider the possibility of supplying FSC-certified bamboo products. If individual certification is out of your company's scope, you should consider partnering with other bamboo processors in your region.
- You are strongly advised to look for buyers willing to pay price premiums. Certified bamboo products can offer a 10% price premium. Target those buyers that are committed to sustainability. You can identify these partners on the [FSC](#) database.

### **Innovative products for the higher segments**

The substitution of tropical timber and the shift towards bamboo has occurred because of its environmentally-friendly features, but also because of its technical properties. And despite the fact that tropical hardwood is considered ideal for outdoor and indoor applications such as decking and flooring, bamboo has already started competing with these claims. In fact, bamboo is considered to be more stable than tropical timber, especially when it is compressed.

Its increasing popularity has resulted in further research and further improvement of bamboo products. One example of new, innovative bamboo products is the introduction of the Bamboo Composite. After harvesting, the bamboo is split, boiled, pressurised and carbonised. This process makes it stronger and more durable; a perfect fit for outdoor decking.

**Tip:**

- Bamboo has many applications and its popularity attracts various consumer groups. Industry sources indicate that innovative bamboo products are increasingly preferred by architects who are experimenting with different materials. If you are supplying the higher segments of the market, make sure you offer innovative solutions such as the one mentioned above.

### **Market Channels and Segments**

This section focuses on the most important developments that are shaping the value chain for value-added bamboo products and their consequences for DC exporters.

The value chain for value-added bamboo products does not present significant differences from the general tropical timber sector. Exporters of bamboo decking, flooring and bamboo panels in DCs mostly sell their products to importers and wholesalers in the European market. Bamboo value-added products are distributed via retailers, processors, small contractors or DIY stores (such as [Leroy Merlin](#)), either in a finished form or in a semi-finished form (without finishing, unvarnished, etc.).

For more general information about market segments and channels in the timber sector, please refer to the [CBI Market channels and segments for Sustainable Tropical Timber and Timber Products](#).

**Tip:**

- As a DC exporter, you should target importers, importing wholesalers and agents. Make sure the importers you will be targeting are looking for the specific products you are supplying. There are, for example, specialised bamboo decking suppliers, which can be found in websites such as [Fordaq](#).

## Field of Competition

### Low barriers for market entry:

Uncertainties about inclusion of bamboo products in the EUTR still exist, and consequently the bamboo supplies directed to Europe have not yet been affected. Nevertheless, if legality and sustainability issues arise, exporters of bamboo flooring, decking and panels will not be able to access the European market without proving the legality of their bamboo products.

**Tip:**

- Make sure you stay informed on the [EUTR](#) developments and the legal requirements regarding bamboo imports in Europe.

### Timber alternatives versus sustainability of bamboo:

Bamboo is considered to be a sustainable alternative to timber and is increasingly being used as a substitute for tropical timber in the European market. However, sustainability issues arise with the cultivation of bamboo, mostly concerning deforestation due to land conversion for that purpose. Consequently, some European buyers might turn to bamboo alternatives, replacing it with composite materials, treated temperate timber or engineered bamboo.

**Tip:**

- The drive for innovation is important in the European market for bamboo products. New products are being developed, combining bamboo with other materials. One such an example is bamboo/vinyl flooring, where thin bamboo strips are pressed on a latex backing. You can find examples of innovative bamboo products in the websites of [MOSO](#) and [Panda Bamboo Flooring](#).

### Supplier power still high:

Despite the increasing popularity of bamboo, its cultivation has only recently been taking place in other regions outside China such as Mexico, Vietnam and Chile. Additionally, industrial sources indicate that suppliers outside China often cannot offer high quality products and provide certifications. Therefore, suppliers have increased power due to the limited supplies available. At the same time, it will be harder for exporters outside China to enter the European market due to high quality demands.

**Tip:**

- Consider working together with other processors and traders in order to become a more attractive supplier. Creating business relationships with other processors means a reduction of costs and supply of larger volumes. Consider certifying your bamboo products, as this will give you greater power against your competitors.

### Buyer power depends on market structures:

The current market for bamboo products is a buyer's market. Due to the growing popularity of bamboo and the availability of bamboo sources, buyers have more negotiating power than suppliers. Nevertheless, if the implementation of EUTR incorporates bamboo products fully, negotiating power will move to the exporter's side. Consequently, with less bamboo available, suppliers that can demonstrate the legality of their bamboo will be able to take advantage of a larger share of the market.

**Tip:**

- Consider increasing your margins by supplying directly to importers. Also, adding value to your product (providing finishing, lacquers, grains etc.) will increase your negotiating power. It is recommended that you enter into joint ventures with your buyers, which requires a long relationship of mutual trust.

### Increased rivalry in bamboo decking, flooring and panels:

Bamboo decking and flooring boards as well as bamboo panels have a standard design, therefore they are not considered a specialty item such as furniture articles. Consequently, switching between suppliers is a bigger possibility for buyers as opposed to a specialty item. Market rivalry also depends on the various bamboo species available, as different bamboo

species can be used for the same application. If the price of one species increases, buyers will switch to the cheaper species.

**Tip:**

- Innovation is the key to survival and one of the major success factors in the European market for bamboo products. Consider the development of new products and textures, putting emphasis on the features of local bamboo species. Also, make sure you add value to your product, by improving its quality (better dyeing, variety of finishing and grains, etc.).

**Prices**

For value-added bamboo products, part of the final value is added in Europe **after importing**. If you see opportunities to add more value to your products **before exporting**, by supplying more sophisticated products, it may create higher margins:

- To **increase the price** of your bamboo products, the elements of aesthetics and design together with the material, are the most important. The quality of the bamboo is very important for a high price; this is defined by features such as hardness, maturation time, grain patterns and colour.
- **Premiums** paid for bamboo products in Europe, especially with a sustainability certification, may be 10% of the product’s value.

Other factors that will increase your profit margins, depending on your bamboo’s properties:

- Characteristics of bamboo species
- Five to seven years maturity rather than three to five years
- Vertical grains are harder than horizontal
- Strand-woven bamboo is much harder than vertical or horizontal grains
- Natural colour rather than carbonised
- 6-9% moisture content as an industry standard.

**Figure 6: Price breakdown of value-added bamboo products in the European market**



Source: ProFound (2014)

Below you can find a few examples of what is for sale on the European market (consumer prices incl. VAT). Note that retail prices can be lower in lower-income countries in the Eastern part of Europe, but this will not always be reflected in import prices.

**Table 2: Examples of retail prices of value-added bamboo products**

Value-added bamboo products	Retail prices/ m <sup>2</sup> (including VAT)
Bamboo flooring	€ 40.50
Bamboo decking	€ 38.00
Bamboo panels	€ 17.50

## Useful sources

- CBI Product Factsheets on bamboo products - [http://www.cbi.eu/marketintel\\_platform/timber-and-timber-products/135906/factsheet](http://www.cbi.eu/marketintel_platform/timber-and-timber-products/135906/factsheet)
- CBI market information: Promising EU export markets.
- EU Expanding Exports Helpdesk - <http://exporthelp.europa.eu> - go to 'trade statistics'.
- Eurostat - <http://epp.eurostat.ec.europa.eu/newxtweb> - statistical database of the EU.
- For instructions, see 'Understanding Eurostat: Quick guide to the EU Easy Comext site' ([http://epp.eurostat.ec.europa.eu/newxtweb/assets/User\\_guide\\_Easy\\_Comext\\_20090513.pdf](http://epp.eurostat.ec.europa.eu/newxtweb/assets/User_guide_Easy_Comext_20090513.pdf))
- Register for the International Trade Statistics site - <http://www.trademap.org>



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