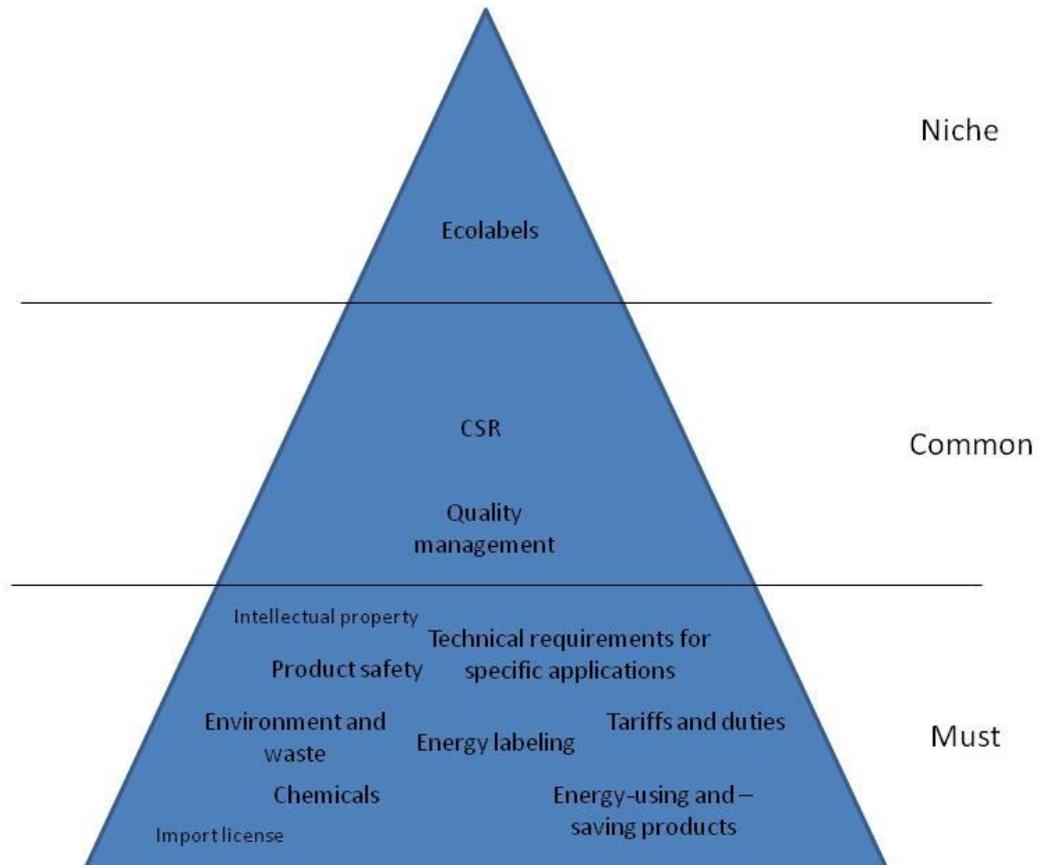# What requirements should Electronics and Electrical Engineering products comply with to be allowed on the European market?

Introduction

Buyer requirements can be divided into (1) musts, requirements you must meet in order to enter the market, such as legal requirements, (2) common requirements, which are those most of your competitors have already implemented, in other words, the ones you need to comply with in order to keep up with the market, and (3) niche market requirements for specific segments.

What requirements should you comply with to get your product on the European market? Here you can find requirements you must meet when marketing your Electronic and Electrical Engineering (E&EE) products in the European Union (EU). Pay attention to the indications of which materials / products are concerned per requirement described.

The following 'musts' apply to the products and uses listed here:
- **Product safety** – applicable to all products (incl. CE-marking)
- **Technical requirements for specific applications**– standards for when products are used in specific applications
- **Ecodesign for energy-related products –** for energy-using or energy-saving products
- **Energy labeling -** for energy-using or energy-saving products
- **Chemicals** – for products that contain chemical substances
- **Electronic waste** – applicable to all products
- **Tariffs and duties** – applicable to all products
- **Intellectual property rights** – applicable to all products
- **Import licenses** – applicable to all products

Information on implementing EU product requirements, conformity assessments and procedures are set out in the [Blue Guide](#).

Product safety

What legislation applies depends on its final use. The obligation of complying will firstly be the responsibility of the EU company that places the finished product on the market. However they will often ask their suppliers to comply with the requirements. For suppliers of parts this can translate into demand for more information, test reports or compliance with standards.

CE-marking

CE-marking shows that a product is assessed before being placed on the market and that it meets EU safety, health and environmental protection requirements. If your *product and its foreseen usage* falls within any of the EU directives that require [CE-marking](#), it is an obligatory requirement to meet. For *parts* of products that fall under CE-Directives, CE-marking is not *legally* required. Your buyer will take care of the CE-marking for the complete product. He will however expect you to comply with certain standards, to be sure that his final product will comply eventually. Buyers of parts can however ask *voluntary* CE-marking. Because costs are involved in the process of CE-marking you should be sure of buyer preferences in the segment you target. The most important Directives on CE marking for electronics are the 'Low Voltage Directive' (LVD), the Directive on Electromagnetic Compatibility (EMC), Ecodesign (energy efficiency, see below) and Restriction of Hazardous Substances (RoHS, see below). However, depending on the use, other Directives may also be relevant (for example for Medical devices or equipment used in explosive atmospheres).

> **Tips:**
> - Click [here](#) for step-by-step guidance on CE-marking. The UK government provides a helpful guide.
> - Identify which directives and standards are applicable to your product(s). You can do so by identifying your product code in the [EU Export Helpdesk](#) which will lead you to an overview of all legal requirements applicable, or by checking out the directives applicable to your product group. You may also find the links provided [on this website](#) useful, as they guide you to more information for each of the directives.
> - Check which standards apply to your products regarding [low voltage](#) and [electromagnetic compatibility](#).

Technical requirements for specific applications

In addition to CE-marking additional technical requirements can apply to electronics and electrical engineering used in specific applications (for example [aircrafts](#) and [motor vehicles](#)). These concern the essential requirements related to product integrity (for example structure and materials, propulsion, system and equipment), product operation and organisational structure.

> **Tip:**
> - Check the [EU Export Helpdesk](#) to see whether these additional technical requirements apply to your product.

Ecodesign for energy-related products

The [Energy-related Products Framework Directive](#) is a CE-Directive specifically for energy-using and energy-saving products. It deals with the environmental impact of products, including their energy consumption throughout their entire life cycle. The general requirements of the Framework Directive are supplemented by specific requirements laid down in implementing Regulations for various products including [lighting products](#) and [electric motors](#) (for a complete overview see the [List of Ecodesign Measures](#)). So far implementing Regulations have only been developed for a limited number of products but this will increase in the future. In addition, the implementing Regulations are often updated. For example, an amendment is scheduled for lighting products (see Article 3 of [implementing Directive](#)) that will go into effect on September 2016.

> **Tips:**
> - The EU has published a [frequently-asked questions document](#) that summarizes questions and answers regarding the Eco-design Directive and the implementing Regulations.
> - Stay updated about future amendments by taking a close look at the implementing Regulation that applies to your product. Article 3 of the Regulation provides a timeline for scheduled amendments.
> - Be aware that EU buyers and producers will change their products and product specifications due to new legislation. For older-generation products on the EU market, the spare part market can provide interesting opportunities. Perhaps working with EU producers that would like to move production of older generation products to low wage countries provides market chances.

Energy labelling

Energy using products, such as household appliances or power supplies, and energy-related products must bear specific energy labels when put on the EU market. An energy label communicates information on the energy consumption of the product. Although it is your EU buyer who has the responsibility to ensure that products are properly labeled, it is important to familiarize yourself with the necessary requirements. You can be asked to provide your buyer with technical documentation to determine the information contained in the label. The household appliances covered by the Energy Labelling Directive directives are also covered under CE marking directives. Therefore CE-marked energy-related products must also comply with the Energy Labelling Directive.

> **Tips:**
> - Find out whether the legislation energy labelling applies to your product by looking up your product in the [EU Export Helpdesk](#). Refer to the website of the EU for an [overview](#) of legislation regarding labeling of energy using products.
> - Consider taking an eco-design approach by giving attention to the environmental impacts of the product during its whole lifecycle: think of easy dismantle of parts of final product(s) for later re-use or recycling; less amount of raw materials used; avoidance of mixtures of materials difficult to separate; avoidance of hazardous substances/materials.

Chemicals

To avoid environmental damage, the EU has restricted the use of certain chemicals in several Regulations and Directives.

> **Tip:**
> - In most cases it is your EU buyer who is responsible for complying with the legislation with regards to chemical substances. To be able to do so he will need to have information about the chemicals you use. Therefore it is essential to know which substances are used in your products and that you provide this information in the way your buyer wants (for example via Material Safety Data Sheets (MSDS) or software in which you declare the chemical content of your product). An example a [Material Declaration Form](#) can be found at the website of the STMicroelectronics.

The REACH Regulation

To avoid environmental damage, the EU has restricted the use of certain chemicals in the [Registration, Evaluation and Authorisation of Chemicals](#) (REACH) Regulation. Chemicals are used in or for the production of electronics and electrical engineering. For example, REACH states that phthalates shall not be used as substances or in mixtures, in concentrations greater than 0.1 % by weight of the plasticized material. REACH also put restrictions on the use of other chemicals in production processes (see REACH Annex XVII for more information). Since EU processing legislation does not apply outside the EU, these requirements do not directly apply to you. Nonetheless, EU buyers may require you not to use certain chemicals. If you want to do business with such a particular EU buyer, you will have to exclude the use of these chemicals from your production line and use an environmentally friendlier (for example biodegradable) alternative, such as fatty alcohol ethoxylate.

Heavy metals in EEE/RoHS (*Restriction of Hazardous Substances*)

If you produce electrical and electronic equipment (EEE), RoHS is applicable to your products. Under the directive, six hazardous substances are restricted, namely: lead, mercury, hexavalent chromium, polybrominated biphenyls (PBB), polybrominateddohenyl ethers (PBDE) and cadmium (0.01 % by weight for cadmium and 0.1 % for the other substances). In 2013, a new version of RoHS, Directive 2011/65/EU, also referred to as "RoHS2", entered into force, and the new requirements it contains are gradually being introduced. Under RoHS2, all EEE is covered unless specifically exempted. The EU Commission has planned to prohibit further substances from July 2017 onwards. Substances that are likely to be prohibited are Diethylhexylphthalat (DEHP), Dibutylphthalat (DBP), Benzylbutylphthalat (BBP), Diisobutylphthalat (DIBP). The conversion time of the directive will be two years.

Another new feature is the introduction of CE-marking as a means to show compliance with RoHS (see CE-marking above for more information). Under the RoHS directive manufacturers are responsible for the technical documentation according to EN50581, the internal production controlling, the conformity declaration and the CE marking.

Please note that the EU has also established legislation on Waste Electrical and Electronic Equipment (WEEE). It obliges EU producers to set up and participate in product take-back schemes. It may affect you as a supplier since requirements on the design may be set in order to facilitate reuse and recycling of EEE.

General requirements on packaging and liability

Note that there is also non product-specific legislation on packaging and liability that applies to all goods marketed in the EU

Waste electrical and electronic equipment (WEEE)

Waste electrical and electronic equipment (WEEE) regulations mean that manufacturers, sellers and distributors are responsible for taking back and recycling unwanted electrical and electronic equipment. Products covered under the regulations include:
- household appliances
- telecommunications equipment
- audiovisual and lighting equipment
- electrical and electronic tools
- medical devices.

Tariffs and duties

Key issues in the context of buyer requirements relate to the tariff, duties, intellectual property, Value Added Tax (VAT) and preferential customs schemes. A common customs tariff is applied across all EU countries on goods imported from outside the EU.

> **Tips:**
> - To find tariff specifications for your product go to the EU webpage on taxation and customs.

Preferential duty rates

The Generalised System of Preferences (GSP) allows products from a range of developing countries to be imported into the EU at a reduced or zero rate of duty.

The European Union (EU) also has various trade agreements with third countries (countries outside the EU), whereby goods may attract preferential duty rates.

> **Tips:**
> - You can read about the GSP on the EU website.
> - Find out if your goods qualify for a preferential duty rate and meet the appropriate rules of origin in Notice 828.

Intellectual property

You should ensure that your imported goods do not breach the IP rights (IPR) of other businesses, so watch out for counterfeit goods and design infringements. Infringing goods may be seized and destroyed by national authorities – mainly customs - in any of the European states.

> **Tips:**
> - For more information on counterfeit, piracy, and other IPR violations visit the EU webpage on taxation and customs.

Import licenses

If goods are imported from outside the EU, products may have to comply with import licensing requirements and with common customs tariffs that apply across the EU.

> **Tips:**
> - For more information, see the guide on importing your goods from outside the EU.

Common buyer requirements

Quality Management

Product reliability is essential in the electronics and electrical engineering market. Buyers want their suppliers to deliver exactly what agreed on and expect you to maintain that quality. Therefore compliance with management systems as ISO 9001 (quality management systems), UL (a global safety standard) and the association of the German electrical industry VDE (a European standard with several variations), are often required. ISO 16949 is a specific quality standard for the automotive industry. It is a must have when looking for clients operating in the automotive sector in Europe. EU buyers may expect you to have an in-house Quality Assurance (QA) team that assures the quality of your products.

Tips:
- Become ISO 9001 certified as quickly as possible and plan for ISO 14001 (for environmental management) as well.
- Become ISO 16949 certified when targeting customers in the automotive sector.
- Check how UL and VDE can be valuable to you.
- Form a strong Quality Assurance team within your company. You should at least comply with ISO standards and those that are relevant for Europe.
- Refer to the CBI's factsheets on electronics and electrical engineering for product- specific standards of promising export products.

Compliance with technical product standards to guarantee quality and safety

Buyers often ask their suppliers to deliver products according to voluntary quality standards in order to be sure of a certain quality and safety level. Compliance with standards is especially asked for when they are referred to in EU (EN-standards in CE-marking) or national (national standards) legislation. Based on the equality principle you are still allowed to prove compliance in another manner but in reality most buyers will want you to comply with that specific standard. Suppliers can claim compliance without third-party testing. However EU buyers will often want you to prove compliance by certification of your product. The large number of different standards make it hard to determine which ones are applicable and relevant. The standards are often harmonized, overlap and/or complement each other. Which one is the best to follow will depend on your specific situation (for example product and market(s) you want to target). In the EU market the following standards can be relevant:
1) ISO standards: recognized worldwide and cover a wide variety of products.
2) EN-standards: developed by the European Committee for Standardization (CEN) and are harmonized throughout the EU. ISO standards are often harmonized with EN-standards and published as EN-standards.
3) National standards: developed by standardizations bodies in EU member states and only asked for and relevant in the specific EU member state. ISO and EN-standards are more common but some buyers will still work with national product standards.
4) *Foreign standards:* can also be asked by companies that operate in the EU. For example, American standards will mainly be asked in the EU by American-based multinationals that already adhere to these standards. An important difference with American standards is the technical specifications (for example inches instead of centimeters). Examples of American standards agencies are the API - American Petroleum Institute, ANSI- American National Standards Institute and ASTM - American Society for Testing and Materials.

Tips:
- Every successful company needs a good standard strategy. Determine what standards are most suitable for the product and market(s) you want to target. EU standardizations bodies are a good point of information once you have done some research.
- Compliance with ISO and EN standards cannot be certified until these standards have been published by the relevant EU national standardisation body. These bodies use codes to number standards. Codes are preceded by an indication to categorize the type of standard. Below is the example of these indications of the German Institute for Standardization (DIN).

• DIN	• DIN EN	• DIN ISO	• DIN EN ISO
• National standard	• EN-standard	• ISO-standard	• ISO standard developed into EN-standard

- An important factor in deciding what standard to choose is whether you want to sell to a specific EU country, multiple EU markets or globally. When a large share of your (projected) sales comes from outside the EU it can be more interesting to follow ISO-standards. When an EN-standard is mentioned in EU legislation (and is harmonized with ISO standard) it is better to certify your product according DIN EN ISO standard than the equivalent DIN ISO standard.
- EU buyers should accept EN and ISO-certified products regardless of which of the national standardization body published the standard. A product certified by a DIN EN ISO-standard is similar to the one certified by the British Standard Institute (BSI) EN ISO. In practice some buyers might prefer certification according by a standard from the standardization from their own country.

CSR – a diverse picture: next to environmental performance EU companies are also increasingly looking at corporate social responsibility (CSR). CSR looks at the 3 Ps: Next to Planet (for example environmental performance) it also looks at issues related to People and Profit. EU companies will have varying degrees and ambition levels regarding sustainability. Some companies will (initially) focus strictly on their own operations. Other also look at the CSR-performance of their direct suppliers and in some cases (especially with important issues) the entire supply chain. In those cases suppliers can be as asked to comply with supplier's code of conducts and/or be assessed. Some companies will even audit their suppliers on CSR and base their selection on this score. The weighting may even be as high as 30% of the audit score. On the other hand, there are companies, who have not (yet) included CSR in their weighting at all, the key indicators for the relevance lying in brand strength and awareness. Therefore products sold in the consumer market are more likely to be sold taking CSR into account.

Tips:
- Inform yourself about the CSR requirements of your (potential) buyers by checking their website or CSR-reports for statements about supplier codes, codes of conducts and general vision and objectives. An important initiative for the electronics sector is the Electronic Industry Citizenship Coalition (EICC) Code of Conduct. Most big electronics companies have implemented this code and require their suppliers to act in line with it.
- Certain European partners may also consider certification an added value. In this case, ISO 14001 (environmental management) SA8000 (social accountability), or OHSAS 18001 (occupational health and safety) may provide a competitive advantage.
- Have a look at this Philips video to see an example of ecodesign of a coffee pod machine.
- Find out what CSR-issues are relevant for your country through to the country maps on the websites of UN Global Compact (Human rights), International Labour Organization (labour standards including health & safety), Transparency Index (corruption), Environmental Performance Index (environment). CSR Netherlands has developed a tool with which you can find CSR-issues that apply to your product and country specifically. Please be aware that none of these sources provide information that is complete and/or specific enough for your situation. They should be considered a starting point. Do more research, include suppliers in this process and take steps if necessary.

Important CSR-issues for electronics and electrical engineering equipment relate to the sourcing of raw materials, healthy and safe working conditions and environmental performance including ecodesign. Other CSR-issues that can be of importance will depend on the specific issues that are in play in your specific sector, country or region. EU buyers will aim to show due diligence meaning they will take necessary steps to avoid implications in CSR-violations. Part of this can be to make a risk assessment when buying from regions where CSR-issues are likely to occur.

> **Tips:**
> - Certification is not a must, but may be valuable to have. You can discuss the need for certification with potential partners, or simply check whether you have the resources needed to meet the costs of the certification process.

The TCO Certified is one the certifications that stands for the compliance with core standards of the International Labour Organization (ILO) or the UN convention for the rights of children, children labor and the labor rights of the manufacturing country. The TCO Certified seal finds increasing acceptance among electronics manufacturers, and helps procurement managers to select sustainable products from reliable sources. The seal can be found on smart phones, tablets, monitors or headsets amongst others.

ITC's Standards Map

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 food quality and safety. In Standards Map you can identify standards or codes of conduct relevant to your product, review the main features of the selected standards and codes and compare standards' requirements side-by-side. Furthermore you can assess your company's performance against standards requirements in a self-assessment module, and generate your own company's "sustainability diagnostic report" which you can then share with the business community. Check the Standards Map video to see how Standards Map can help you to determine which initiatives may be useful for your company

Niche markets: Ecolabels

There is a growing niche market for environmentally friendlier (greener) electronics. These products can be sold under the private (eco)label of a company or with a label of a third party, such as the EU Ecolabel, the German label 'Blaue Engel', the Nordic Ecolabel, Energy Star or the Electronic Product Environmental Assessment Tool. Greenpeace has campaigned for greener electronics since 2006 and publishes reports in which it rates manufacturers in regards to how 'green' they are. Yet, the organization has not connected it with a structured certification process.

> **Tips:**
> - Check the criteria for ecolabels for electronics (for example the EU ecolabel criteria for televisions), to see if it may be feasible/valuable to have your products labelled, or sell your components to manufactures of ecolabelled products.
> - Read more on the different ecolabels in ITC's Standards Map.