CBI
Ministry of Foreign Affairs

Electronic Lighting in the Netherlands

'Practical market insights on your product'

The Netherlands is one of the leading electronic lighting suppliers; it is home to global players such as Philips Lighting and several smaller manufacturers. Light-emitting diodes are already widely used in indoor and outdoor lighting by the residential and public sectors. The Netherlands is one of the key contributors to EU lighting programmes, benefiting from skilled labour, know-how, and intensive involvement in lighting R&D. The country's intelligent lighting roadmap aims to develop new applications for electronic lighting to foster the industry's growth and create opportunities for local and international market players.

Product Definition

Light-emitting diodes (LEDs), HS code 85414010, are a semiconductor light source. LEDs illuminate when an electrical charge passes through them, converting energy directly into light of a single colour. LEDs are used for very different functions and applications both indoors and outdoors and in residential and industrial areas. LED lights are very efficient at turning energy into light.

Organic light-emitting diodes (OLED), HS code 85414010, have an organic compound film which turns energy into light. OLEDs have been mainly used in consumer electronics, but ongoing R&D has enabled the penetration of OLEDs into industries such as lighting and the automotive sector. The main differences between OLED and LED are indicated in the table below. However, OLEDs have made significant progress in development and in the improvement of efficiency in the last two years.

Table 1: Advantages of LED and OLED

Advantages of LED	Advantages of OLED
LED is more efficient than OLED	OLED has a larger-area emission
Lifetime of LED is much longer than OLED	OLED offers better design flexibility
LED are much more cost-efficient than OLEDs	OLED has a higher colour comfort

Source: IDTechEx

Efficient lighting is one of the EU requirements. LEDs play a more significant role in the electronic lighting market than OLEDs, because LED is currently more efficient than OLED, and its lifetime is much longer than that of OLED. The price of OLEDs is much higher than LED, limiting OLED penetration possibilities. For these reasons, the report will focus mainly on opportunities for DC exporters in LED and will not be featuring OLED in detail.

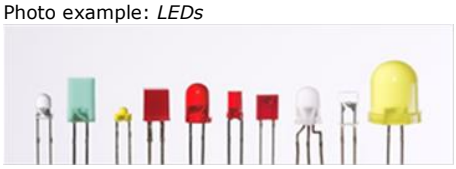
Strong brand names are important in electronic lighting in all industrial applications, including automotive, indoor, and outdoor lighting. The leading suppliers of lighting in the Netherlands are Philips Lighting, but there are also many smaller LED suppliers such as Lemnis Lighting, Lagotronics B.V., CLS-LED, Lighting Science Group.

Product Specifications

Quality:

High product quality and compliance with international and the European standards on safety, as well as national legislation and practices are key for European companies. Product safety is essential. Suppliers of electronic lighting and components must meet ISO 9001, RoHS and REACH standards (see "Buyer requirements").

Photo example: *LEDs*



LED elements (diodes)

LED stripe
Source: Fotolia

Photo example: *LED lights*

LED indoor light (bulb)

LED outdoor light

Source: Fotolia

OLEDs and LEDs are just starting to enter the lighting market and there is a huge potential for the improvement of electronic lighting. Thus quality is being constantly improved and new buyer requirements are being re-defined along with innovation progress.

The expected buyers' specifications include wavelength, light colour, voltage drop, life expectancy, and most likely semiconductor material. There is still room for DC exporters to improve the life expectancy of LEDs.

Several features of LED lights need to be considered in its design, since it is both an electronic and an optic device. Desirable optical properties such as colour, brightness, and efficiency must be optimised without requiring an unreasonable electrical or physical design. These properties are affected by the size of the diode, the exact semiconductor materials used to make it, the thickness of the diode layers, and the type and the treatment of the semiconductor.

LED performance is temperature-dependent. Most manufacturers' published ratings for LEDs are for an operating temperature of 25 °C. LEDs used outdoors such as traffic lights or in-pavement signal lights, could result in low signal intensities or even failure.

Use of efficient, up-to-date or intelligent technology is gaining importance in Europe. Intelligent lighting may include:

- Integration of hardware and software (e.g. a contemporary street light is an intelligent solution),
- Sensor integration for temperature measurements,
- Connectivity to renewable energy sources such as solar panels,
- Use of appropriate material as the interface material for LEDs.

Labelling:

Products marketed in the Netherlands must be labelled in accordance with the EU requirements and must provide product information as listed below.

Photo example:
Labelling

Source: Fotolia

Label information must also be electronically readable. Examples of suitable label technologies include:

- Bar Codes
- Data Matrices
- Radio Frequency ID

Electronic lighting is typically labelled with the description of content, including the following types of information:

- type of product,
- model type,
- quantity,
- net and gross weight (in kilograms),
- supplier/manufacturer name,
- supplier/manufacturer location,
- serial number,
- various environmental logos,
- country of origin based on assembly.

Photo examples:
Packaging


Source: Fotolia

Packaging:

- Typically the buyer defines the preferred type of packaging
- Packaging must protect products from damage and protect consumers' possible injuries by avoiding the use of prohibited chemicals or materials.
- Packaging for products marketed in the Netherlands must meet certain EU requirements. Make sure that your packaging:
  - has minimal weight and volume;
  - has reduced content of hazardous substances and materials in the packaging material;
  - is recyclable.
- LED components are supplied in strips, LED bulbs (for replacement) are packed in boxes with fixed fittings, while LED lighting is packaged in individual packs – typically in plastic bags and cardboard boxes.

Buyer Requirements

To assure durability and safety, products *must* comply with relevant EU regulations and standards. Compliance with 1) *must* requirements, 2) *common* requirements and 3) *niche* requirements, is a basic necessity for *all exporters* in the electronics and electrical engineering sector. Below you will find all of the standards that apply to **electronic lighting**. Familiarise yourself with the guidelines on the application of all *must, common,* and *niche* requirements.

Requirements you must meet

1. CE marking

- For the intra-European trade, electronic lighting and components must be marked with the CE mark, which shows that the product was assessed before commercialisation and that it meets EU safety, health, and environmental protection requirements. For electronic lighting, the most important Directives on CE marking are:
    - Electromagnetic compatibility (EMC Directive 2004/108/EC).
    - Low voltage equipment (LVD 2006/95/EC),
    - Ecodesign for Energy related products (Directive 2009/125/EC), which are not standards but implementing measures,
    - RoHS (see below).

Considerations for action:

- Apply for CE marking for all your products, **before** approaching potential customers in the Netherlands.
- The European Commission page on CE marking is a useful starting point to find out how the legislation on CE marking is relevant to you; it illustrates the key steps you need to take to comply and have your products CE marked.
- Check information for relevant standards and guidelines on the application of LVD, EMC and Ecodesign in the Buyer Requirements section on CBI's Market Intelligence platform.
- Familiarise yourself with standards that apply for electronic lighting here (LVD) and here (EMC)
- Familiarise yourself with implementing measures on ecodesign here
- Read more about CE marking for low voltage equipment and electromagnetic compatibility in the EU Export Helpdesk

2. Chemicals

- Use of certain chemicals is restricted by the EU and is regulated through several Directives and Regulations.

Considerations for action: Exporters of electronics and electronic components have to meet the requirements under both RoHS and REACH.

- **Restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS).** The Directive sets maximum levels for lead, mercury, cadmium, hexavalent chromium, polybrominated biphenyls (PBB) or polybrominated diphenyl ethers (PBDE) in electronic equipment (0.01% by weight for cadmium and 0.1% for the other substances). The Directive covers all electronic lighting components with the exception of the products mentioned in Annex III to the Directive. Since 2013, CE marking is required in relation to RoHS compliance of final products. This includes technical documentation and a declaration of conformity.

Considerations for action:

- Make sure that you provide the EU buyer with all information required in relation to chemicals used in electronic lighting. Fill out this information in the form required by your EU buyer, e.g., by providing information in Material Safety Data Sheets (MSDS) or software in which you declare the chemical

content of your product (e.g. BOMcheck – a collective data system developed by a group of large electronics companies to collect chemical composition information from suppliers).
- Provide the EU buyer with technical documentation and a declaration of conformity for the products supplied.

- **REACH Regulation**. This legislation restricts the use of certain dangerous chemicals (as per Annex XVII of the Regulation) and sets requirements on indicating information for the chemicals used. Manufacturers are required to provide information on the properties of chemical substances used to their buyers.

Considerations for action: List all chemicals, including raw materials and additional materials, used in your production process. Check the candidate list of Substances of Very High Concern.

- **Waste of Electrical and Electronic Equipment (WEEE).** EU producers are obliged to participate in product take-back schemes. This does not directly affect exporters from developing countries, but specific requirements on the design may be set in order to facilitate the reuse and recycling set out by WEEE.

Considerations for action: To have a better understanding of WEEE requirements, familiarise yourself with information published in the EU Export Helpdesk.

Common Buyer Requirements

- **Quality management systems (QMS)**. If you plan to export to the Netherlands, all products must meet buyers' quality demands. ISO 9001 and 14001 are designed to make sure that the manufactured and/or exported products to Europe the meet needs of customers. Compliance with VDE (a European standard with several variations) is often required by Dutch buyers as well.

Considerations for action:
- Apply for ISO 9001 as quickly as possible and plan for ISO 14001.
- Familiarise yourself with VDE requirements.
- Consider forming a Quality Assurance team within your company that will assure the high product quality required by EU buyers.

- **Corporate Social Responsibility (CSR).** Dutch buyers increasingly look for products that have been manufactured with due respect for human rights, labour conditions and the environment. Bigger EU companies even develop their own CSR policies and require suppliers to conform to these requirements. In particular, workers' health and safety are sensitive topics in Europe and buyers want to avoid reputation loss.

Considerations for action:
- Understand what CSR policies are required by your customers by checking websites of electronic companies in the Netherlands.
- An important initiative for the electronics sector is the EICC Code of Conduct. Most big electronics companies have implemented this code and require their suppliers to act in accordance with it.
- SA 8000 is a certification standard for social conditions. Although certification may be too much, the standard is publicly available, so you can find out about the most important issues.
- Consider implementing OHS - Occupational Health and Safety - that deals with aspects related to labour conditions. These requirements are not

mandatory, but will definitely give you an advantage over other DC exporters.

Niche Buyer Requirements

Ecolabels

- There is a growing niche market for environmentally friendlier/greener electronics. Green electronic assemblies can be sold under ecolabels to a third party, such as the "EU Ecolabel".

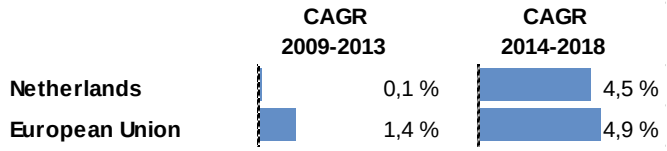
Considerations for action: Familiarise yourself with the "EU Ecolabel" or other European ecolabels. See if your customers need to have your products labelled. Consider selling your components to manufacturers of ecolabelled products.

Macro-Economic Statistics

The Netherlands is a small European country with a strong economy. It has demonstrated a solid historic development (except for the economic slowdown in 2012 across most European countries) and positive growth forecasts.

The Netherlands' GDP is expected to have a Compound Annual Growth Rate (CAGR) of 4.5% in 2014-2018 and it is forecast to see year-on-year growth of 4.8% in 2014, while Europe is set to grow 6.2% in 2014.

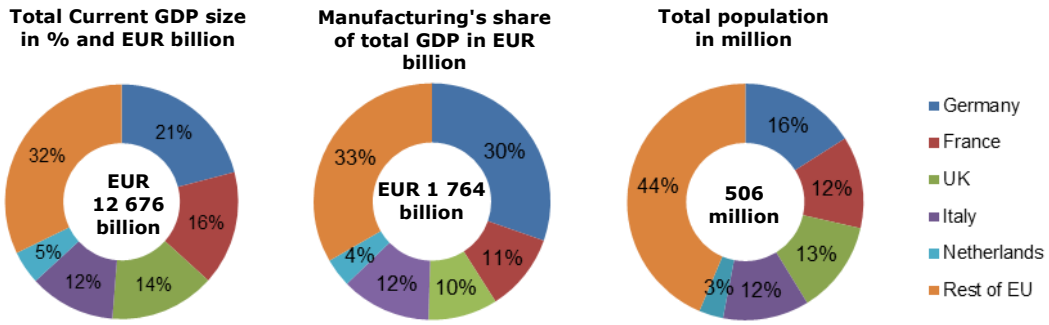
Figure 1: GDP (current prices) Compound Annual Growth Rate (CAGR) for 2009-2013 and estimate for 2014-2018 for the Netherlands and the EU



Source: IMF 2014, World Economic Outlook Database

The Netherlands holds a 5% share of total GDP and 4% share of total manufacturing. The population of the EU was estimated at 506 million in 2013 and the Netherlands contributes 3% to the total EU population, approximately 17 million.

Figure 2: Key 2013 macroeconomic indicators for the Netherlands, the EU and selected countries, in € billions (population in millions)



Source: IMF and OECD 2014

Trade Statistics

Production and consumption

One of the frontrunners in the lighting sector, the Netherlands is strong in innovations in electronic lighting. The use of electronic lighting in new applications is rapidly adopted in the country, for example LEDs in the greenhouse business. LED component price remains the key factor favouring DC exporters that are able to offer better-priced products, but product quality and innovative technology are also important.

- The European lighting market is expected to grow from €16.3 billion in 2012 to €19.8 billion in 2020. The key driver in the market is LED lighting, which is set to increase its market share from 15% in 2012 (or even 9% in 2011) to 72% in 2020. (Source: McKinsey) By 2020, nearly all lighting sales will involve LED and OLED lighting, the demand for which is driven by energy efficiency, penetration to new applications, high R&D investments and support by EU policies. The Netherlands is one of the key producing markets in Europe, being a home country to the global leader in lamps and luminaires - Philips Lighting. Besides Philips, there are also other smaller market players in the Netherlands that could function as a 'door-opener' to DC exporters of LEDs in the European market.

Considerations for action:

- The leadership and ambition of the Netherlands bring both opportunities and challenges to DC suppliers. There is a growth potential on the market, but DC suppliers have to demonstrate that they can stay on pace with the technological developments. Demonstrate your reliability and product quality as these are highly valued by Dutch and European companies in general.
- DC exporters have better opportunities in supplying local manufacturers with LEDs and OLEDs on the component level (semiconductors). There are limited opportunities on a system/solution level, because after-service availability is important and means the DC exporters must be represented through a local partner.

- The Netherlands is one of the frontrunners in electronic lighting innovations. Dutch companies are involved in several EU projects that aim to develop new applications for intelligent lighting solutions, thus offering growth opportunities to local market players and international suppliers. One of the latest applications for LEDs, successfully running in the Netherlands, is the greenhouse business. Through its involvement in the intelligent lighting roadmap, the Dutch lighting sector aims to consolidate its number one position in lighting through the high number of R&D jobs linked to the sector. However, there is still a huge potential for improvements that have to be addressed in order to stay competitive. Though buyers are typically very sensitive to the purchasing cost of production, the total cost of ownership is far more important. LEDs are perceived as an investment in energy saving.

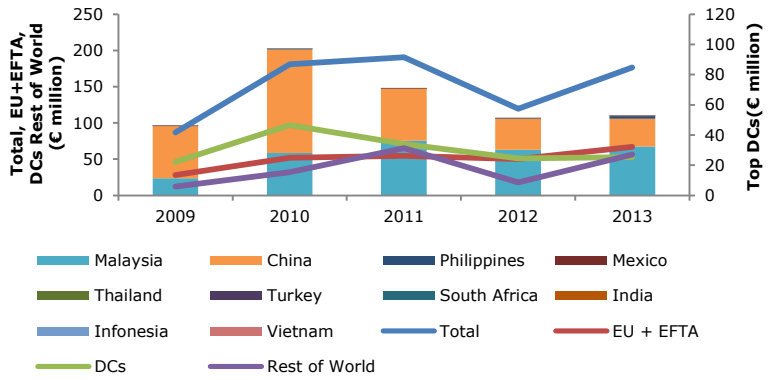
Considerations for action:

- DC exporters will benefit by offering better priced, labour-intensive innovative products that can help develop new applications for intelligent lighting solutions in the Netherlands.
- It is important to continue working on the improvement of know-how and product quality. Research and familiarise yourself with the new applications that are receiving investment and being promoted in Europe. Typically trade fairs have reviews of innovations, but you'll also find a lot of information through themed forums in social media or innovation clusters. Adapt your product offering and marketing strategy accordingly. Cooperate with innovation clusters to meet the rapidly changing requirements in the LED sector.

Import and export

The recent slowdown in the European economic environment impacted the international trade of light-emitting diodes in the Netherlands. With the expected improvement in the European economy, the DC exporters' opportunities are set to increase. Price, reliability and product quality are key to staying competitive in the market, while improved longevity of LEDs may become the suppliers' Unique Buying Proposition.

Figure 3: Imports of Light-Emitting Diodes (LED/OLED) to the Netherlands, value in € million

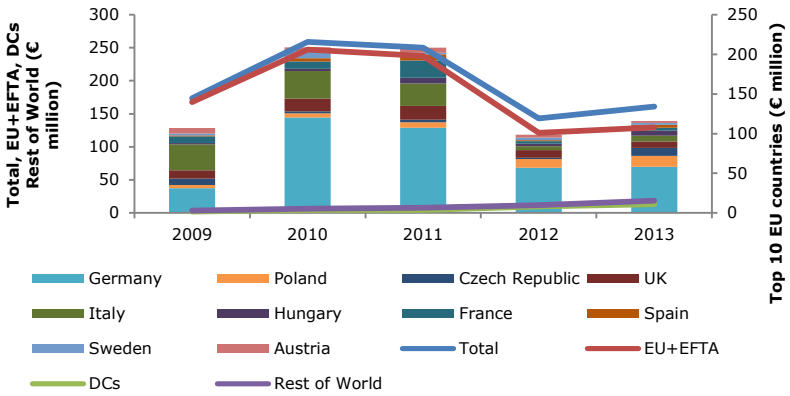


Source: Eurostat (June 2014)

- Total imports of (O)LEDs to the Netherlands demonstrated good performance in 2009-2013, up by nearly 20% CAGR. Imports of (O)LEDs from DCs managed to grow 3% CAGR in the last 5 years. Malaysia and China are the leading importers of LEDs and OLEDs, because the major subsidiaries of American, Japanese and Korean manufacturers are located in these countries. Besides, many European companies are reselling China-made LEDs and OLEDs under private labels. Philippines (CAGR 190% in 2009-2013), South Africa (CAGR 43% in 2009-2013), Malaysia (CAGR 47% in 2009-2013), and Thailand (CAGR 23% in 2009-2013) recorded the fastest growth in Dutch imports in the last five years, taking on the share of the leading exporter – China.

Considerations for action: Be aware of the severe competition with Chinese and Malaysian companies (the leading exporters of LEDs and OLEDs) and work on your *Unique Buying Proposition, (i.e.* why should European OEMs buy your product?). Demonstrate your reliability and product quality, highly valued by Dutch companies, while offering competitive prices. Improve the product quality and LED/OLED longevity (the focus improvement area among the European buyers), in order to increase your competitive advantage over other exporting countries.

Figure 4: Exports of Light-Emitting Diodes (LED/OLED) from the Netherlands, value in € million



Source: Eurostat (June 2014)

- Dutch exports of LEDs and OLEDs within Europe declined in 2012 and 2013, impacted by the European zone slowdown. Exports to Italy and France have suffered most from the unfavourable market conditions. Germany, Poland, Hungary, and Spain have seen the highest growth in 2009-2013. Germany is the largest destination market in terms of its export value size.

Considerations for action: The Netherlands is an important trade hub in Europe. Despite reduced intra-European exports, the economic environment is expected to see improvements in Europe. DC exporters can target other European countries through re-exports in the Netherlands. For re-exports, target Dutch wholesalers and distributors that can be contacted during the Eurotrade Fair.

Market Trends

- *Political measures*: Europe is accelerating the switchover to more ecological lighting sources.
  - In September 2012, the EU banned the sale of all traditional incandescent lamps. Halogen lamps will be phased out by 2016, which means that the energy-efficient LED lights will have a broader market to replace traditional lighting.
  - Energy infrastructure requirements and incentives for entire building infrastructures are also being extended. The EU, for example, has ruled that by 2020, all new building structures should consume "nearly zero" energy.
  - The demand for electronic lighting in the Netherlands is currently driven by the mandatory substitution of existing lighting in various applications. The Dutch government also owns a substantial part of lighting installations – both outdoor and in public buildings. Recently, LED luminaires were installed on the highway near Amsterdam to lower energy consumption, to minimise maintenance work, but also to provide a safer night-time driving experience.

Considerations for action:

- Currently the key opportunities are still in the indoor market, but the use of LEDs in municipal outdoor lighting and other applications in the Netherlands is rapidly growing.
- If you decide to supply European and Dutch companies with **intelligent lighting solutions**, consider partnering with other manufacturers from developing countries in order to strengthen your product portfolio, or co-designing electronic lighting solutions. However, be aware that the

opportunities in supplying **components** for electronic lighting are higher than in supplying complete solutions.

- *Joining the supply chain with low-cost products*: European OEMs are beginning to separate high-price and low-price electronic lighting. Electronic solutions (also lighting) are becoming more intelligent and integrated. Thus, there are opportunities for DCs in supplying low-tech components for high-tech solutions.

Considerations for action: Supply local (Dutch) manufacturers primarily with LEDs and OLEDs on the component level (semiconductors). You may also think about creating a product portfolio on a modular basis, enabling lighting components and also lighting solutions to be ordered. Be aware that opportunities in supplying electronic lighting at the solution level are limited.

- *Technological innovations:* The Netherlands plays a significant role in the development of electronic lighting, since it's the home country to the market leader in luminaires – Philips Lighting. It also has solid know-how and high R&D investments.
  - As a result of technological innovations in electronic lighting, new functions of lighting have been introduced recently: modified lighting to create an impact on emotions, adjustment of light colour, position, and micro flickering.
  - The Netherlands has introduced a Lighting Roadmap "Lighting the Future" in order to drive the R&D for innovative technologies, design and business models. Development of new applications is one of the key targets of the roadmap. The roadmap mapped four clusters of activities in order to create an advanced lighting eco-system in the Netherlands:

    1. Lighting component technology improvement – R&D on materials, processes and equipment to minimise costs and improve the performance.
    2. Improvement of LED and OLED technology – a bottom-up approach to leverage new opportunities of recently launched LED and OLED products.
    3. Human centric Lighting Solutions – a top down approach to establish solutions that address user needs.
    4. Maturing the OLED technology – a separate eco-system due to the fundamental differences between LEDs and OLEDs

Considerations for action:

- DC exporters have opportunities to supply intelligent components for lighting solutions, e.g. semiconductors for electronic lighting solutions. Also suppliers of other electronic components and products have opportunities in supplying the electronic lighting industry in the Netherlands, e.g. intelligent power supplies for lighting with a controlling function or power supplies equipped with an integrated sensor (for example, to measure temperature changes).
- If you have available resources and know-how, consider participating in open innovation in order to address the improvement initiatives of LED and OLED technology. Actively present your new improved products on the market.

- *Product quality*: Besides economical advantages, Dutch Buyers are looking for high-quality electronic lighting, i.e. long life expectancy, among other factors. High product quality is required, because local suppliers must guarantee the product quality and provide after-sales service to their customers. LEDs are expected to change the transmission parameter (wavelength) to a wider range for new applications of electronic lighting, which may increase product-quality expectations with respect to DC exporters.

Considerations for action: Continuously work on the improvement of product quality and LED/OLED life expectancy, in order to increase your competitive advantage over other exporting countries. If you are lacking in product knowledge, look for proof of quality through European partners.

- *Minimisation of the total cost of ownership*: With the growing role of international cooperation, European companies will increasingly be facing various risks that need to be measured and managed in order to keep the total cost of ownership (TCO) at a reasonable (low) level. Both small and large companies will increasingly be looking for the most reliable suppliers and will try to eliminate risk through supplier contract and cost management.

Considerations for action:

- European small and medium enterprises (SMEs) present better opportunities as potential customers for DC exporters, but also larger companies may contact you as a potential supplier. That is why visibility on the market is crucial. Develop your sales and marketing strategy:
  - Work on well-structured and up-to-date content on your company's website;
  - Attend trade shows several years in a row. Start preparations for the trade show far in advance (see a list of trade shows in 'Leading Trade Fairs in Italy' below in this document);
  - Work on your *Unique Buying Proposition*, i.e. why should European OEMs buy your product.
  - Work on product pricing.

For more information on entering the European market, please refer to CBI Trendmapping for Electronics and Electrical Engineering.

Market Channels and Segments

See CBI Channels and Segments for Electronics for Electronics and Electrical Engineering**,** because the trade route of electronic lighting does not differ significantly from the general trade route.

Price

The price range of LEDs varies substantially. When talking about LED's you could be referring to both the driver and the system. The price can also vary depending on the product brands and the supplier.

With regards to LED for illumination, this technology is still the most expensive on the market. This price difference is expected to reduce with time. The market for indoor illumination – both residential and commercial – is very price sensitive. Suppliers that are present in several European countries have harmonised their prices; any differences in pricing may occur because of different logistics, taxes and other local costs.

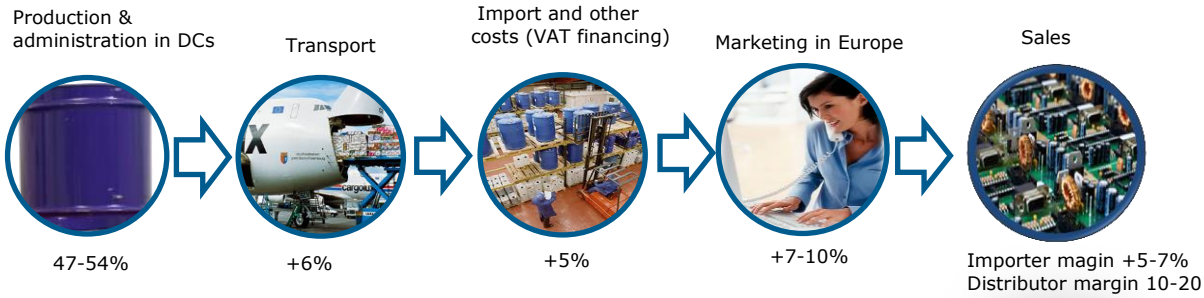
Table 1: Price ranges and major suppliers for LEDs according to type and application

Type of LED	Main application	Price range (€)	Major suppliers
High power LEDs	Industrial, consumer	0.20 to 30.00	Awago, Citizen Electro, Cree, Everlight, Kingbright, Luxeon LumiLED's, Seoul Semicon
High power LED modules	Industrial, consumer	2.50 to 150.00	Barthelme, LEDxON, Idec, Find

High power LED drivers/power supplies	Industrial, consumer	3.00 to 80.00	Aimtec, Barthelme, Infenion, Mean Well QLT, Recom, Voltcraft

Be aware of different costs and value chain margins that add up to the product price. Production and administration costs of the manufacturer usually make up 47-54% of the end price (OEM volume price). The production and administration costs should include all raw material costs, development, labour, and other fixed and administration costs. To develop a unique selling proposition, DC exporters will have to understand own costs, liabilities and responsibilities, and analyse product market price levels.

Figure 5:



Considerations for action:

- Strive to keep the overall production costs significantly lower than in the Netherlands in order to have a competitive offer.
- Work on the production process optimisation and delivery time reduction.
- Make the production process more efficient and flexible by introducing a modular production approach and using different technologies.
- Minimise the risk of damage during production and meet customer requirements in terms of product quality and delivery time.

Market Competitiveness

- *Market entry:* Strong brand names are important only for the end-user market. DC suppliers will most likely serve supply chain intermediates and OEMs. Here better-priced and better-quality products are required by the market.

Considerations for action: To successfully enter the market, work on efficiency improvement in your production process to ensure a better-priced product's profitability. Continuously work on product quality improvement, introduce a Quality Assurance (QA) programme.

- *Product competition*: Due to the imposed EU regulations, there are few substitutes to LEDs at the moment. Out of the traditional lighting technologies, both halogens and incandescent lights are being phased out. This is one of the reasons why the LED market very is attractive. Currently, LED lighting offers a better performance and better price than OLEDs. OLED lighting could gain market success if it clearly defines its unique selling points and carves out initial market niches. Intensive R&D in relation to possible applications for OLEDs is still ongoing.

Considerations for action: Regularly familiarise yourself with new developments on the LED and OLED markets and new applications for electronic

lighting. If you have the know-how, consider investing in R&D or co-managing research projects with European peers.

- *Company competition*: The largest share of the electronic lighting market is concentrated in the hands of several leading companies (including Philips Lighting and OSRAM), but there are also smaller companies on the market. Major technology firms such as Sharp, Toshiba, and Samsung are entering the market to compete with both LED chip manufacturers (e.g., Cree, Lumileds) and traditional lighting players.

Considerations for action: European small and medium-sized enterprises (SMEs) present better opportunities as potential customers for DC exporters, but also larger companies may contact you as a potential supplier. Actively contact SMEs in the Netherlands and participate in trade shows to enable larger market players to find out about your product offering. SMEs can be sourced through local company directories, specialised associations such as NLA or trade show exhibitor lists.

- The bargaining power of buyers is relatively high for the following reasons:
  - Customers are buying LEDs/OLEDs in large volumes;
  - LEDs/OLEDs have a low degree of differentiation;
  - Switching to an alternative product is relatively simple and is not related to high costs.

Considerations for action: Diversify the distribution channel; join forces with other companies from DCs in order to diminish the risk of losing volume orders. Enter the supply chain by delivering better-priced components (e.g. LED semiconductors) to producers of high-tech solutions. Distribute your revenues evenly among your customers in different markets.

- There is a high level of competition among suppliers that impacts the product price level. Besides, high volume orders have a negative impact on the bargaining power, since the buyer can cut volumes at any time.

Considerations for action: In order to increase the competitive advantage of your product offering as compared to the leading LED chip manufacturers such as Cree, continuously work on product quality improvement and look for European proof of quality.

For more information on the market competitiveness, please refer to CBI Market Competitiveness for Electronics and Electrical Engineering and CBI Buyers' Black Box.

Main Sources

- Eurostat, URL: http://epp.eurostat.ec.europa.eu/portal/page/portal/eurostat/home
- Eurostat Prodcom, URL: http://epp.eurostat.ec.europa.eu/portal/page/portal/prodcom/introduction
- European online magazine for LED lighting, URL: http://ledsmagazine.com/
- European Lighting Association, URL: http://www.lightingeurope.org/
- Netherlands Lighting Association NLA, URL: http://www.lichtassociatie.nl/
- Holland High Tech, URL: http://www.hollandhightech.nl/int/

Leading Trade Fairs in the Netherlands

- Integrated Systems Europe, professional and residential electronic systems integration industries show, URL:

http://www.iseurope.org/home.php?hp=1&site=event&gname=Information_HP

- Eurotrade Fair, International Stocklots Trade Fair dedicated to import-export, URL: http://en.eurotradefair.nl/

More information

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. Several queries are possible. For trade, choose 'EU27 Trade Since 1995 By CN8'. Use the guide 'Understanding Eurostat: Quick guide to easy comext' (http://epp.eurostat.ec.europa.eu/newxtweb/downloadobject.do?keepsessionkey=true&filenameOut=User_guide_EASY_Comext_EN_2_0_1.pdf&mimeType=application/pdf&objectID=2567&objectType=LOB&disposition=attachment) for instructions.
International Trade Statistics - http://www.trademap.org – you have to register

This survey was compiled for CBI by Global Intelligence Alliance
in collaboration with CBI sector expert Günther Fandrich