



CBI  
Ministry of Foreign Affairs

# CBI Product Factsheet: for Electronic Components for Smart Meters in Sweden, Denmark, Italy, UK, France and Spain

*'Practical market insights on your product'*

Smart meters are a growing application industry for electronic components such as sensors, chips, capacitors, resistors, some wound components and various electromechanical components. Penetration of smart meters is increasing in Western Europe, with the fastest future uptake predicted in France, the UK and Spain. OEMs will increasingly be looking for lower-cost and more integrated components and DC exporters will have opportunities to supply this type of component for integration systems on chip. In addition, DCs can make inroads through co-design and co-innovation with European OEMs, particularly where new applications are considered, e.g. in Italy, Sweden, Denmark.

## Product Definition

A smart meter records consumption of electric energy and transmits the information for monitoring, controlling and billing purposes. Intelligent smart meters enable two-way communication between the meter and the controlling unit.

The main applications of smart meters include electricity metering, as well as measuring gas, heating and water consumption. There are smart meters for residential and non-residential (offices and industrial) buildings, as well as for utilities and smart grid<sup>1</sup> operators. With the increasing penetration of smart grids, smart meters are regarded as a flexible and efficient controlling unit for energy demand and supply.

All of the components used in any circuitry are important for smart meters. Typically that would be sensors (HS codes 85422950/960/990), chips (HS code

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<sup>1</sup> *Smart grid* is an electric grid, a network of transmission lines, substations, transformers and more that deliver electricity from the power plant to a house or business, and that allows a two-way communication between the utility and its customers. (Source: Smartgrid.gov)

85421405, 85421355, 85421360, 85421966, 8541500, 85422161, 85421200, 85422970, 8542320, 85421940, 8542500), capacitors (HS codes 85321000, 85322100/200/300/400/500/900), resistors (HS code 85459010, 85331000, 85332100/900, 85333100/900, 85334010/90), some wound components and various electromechanical components (HS codes 85366910/30, 85366990, 85369010, 85369085, 85361010/50/90, 85364110/90, 85364900, 853650). In terms of smart metering, some developing countries are more advanced than Europe, e.g. India started selling smart meters years ahead of Europe and can share a great deal of experience in this field.

The leading distributors of smart meters in Germany are the energy supply companies including E.ON, RWE, EWE, Yellow Strom, Vattenfall, EnBW, Discovery. The leading suppliers of smart meters in Europe include Aidon, Arqiva, Connode, CURRENT, Echelon Corporation, Elster Group, Hewlett-Packard, IBM, Iskraemeco, Itron, Landis+Gyr (European market leader), Logica, Powel, Power Plus Communications AG, Sensus, Xemex.

Photo example: **Smart Meter**



Source: Fotolia

Photo example: **Disassembled meter**



Source: Fotolia

## Product Specifications

**Quality:** The requirements for smart meters are constantly growing, as meters become more complex. Electronic components for smart meters and smart meters as finished products have to fulfil agreed-upon specifications and use up-to-date technology.

- Key quality criteria for smart meters include
  - supported functions or capability, e.g. support of metering quantities including energy delivered, energy received;
  - accuracy in electricity metering;
  - data security;
  - interoperability;
  - advanced functionalities such as pre-payment metering, limiting and emergency modes (especially for demand/response metering), possibility for remote access in the configurations of smart meters, demand forecasting;
  - communication with the energy operator (smart grid) and energy user (households);
  - connectivity to various devices such as displays, tablets, smartphones, and transmitters.
- Depending on the application, smart meters can be more or less complex. With an integrated-sensor chip, smart meters can function as intelligent controlling units capable of monitoring and controlling the energy demand and supply from a number of operators and from different energy sources (including renewable energy, i.e. solar panels).
- Product reliability and product design play an important role for European customers. Smart meters must function effectively without any damage in order to ensure low after-sales costs. The product design must meet

European requirements, e.g. no signs of fingerprints on product surface, clean and accurate packaging.

- To assure durability and safety, products must comply with the relevant EU regulations and standards. The materials used have to comply with RoHS and must also meet REACH requirements (see Legislative Requirements in this report). No hazardous substances should be used in smart meters.

#### Labelling:

- Smart meters are typically labelled with:
  - manufacturer's name,
  - meter type,
  - serial number,
  - operating voltage,
  - a LAN ID.
- Components for smart meters would be typically labelled with description of the content, including the following information:
  - type of product,
  - model type,
  - quantity,
  - net and gross weight (in kilograms),
  - supplier/manufacturer name and location,
  - serial number.
- DC exporters have to familiarise themselves with the energy-related product directive Waste of Electrical and Electronic Equipment (WEEE) in order to formulate labels, indicate all product information and mark products accordingly (e.g. the symbol of the crossed-out wheelie-bin).

Photo examples: *Labelling*



Photo examples: *Packaging*



#### Packaging:

- Smart meters and components for smart meters are typically packaged in plastic bags and cardboard boxes to protect them from damage. The buyer might specify packaging requirements

## Legislative Requirements

To assure durability and safety, products must comply with the relevant EU regulations and standards. Compliance with European legislative, as well as non-legislative requirements is a basic necessity for all exporters in the electronics and electrical engineering sector. Below you will find the main mandatory requirements for your products. Make sure you have familiarised yourself with legal requirements in terms of labelling, dangerous substances, product safety and liability. Your products must comply with all EU directives.

- **Liability for defective products.** This liability applies to all products manufactured or imported into the European market. Typically the company that brings the product into the European market is responsible, but a claim can be passed onto the producer or exporter.

#### Considerations for action

- Familiarise yourself with standards that specifically apply to your products. To ensure that your products are of high quality, review your quality assurance and testing procedure, e.g. through the implementation of an accredited quality management system (ISO 9001). Carefully formulate labels, instructions for use and disclaimers. Finally, make sure your insurance covers product liability. See the document EU legislation: [Liability for defective products](#) on CBI's Market intelligence platform.

- **CE marking.** All electronic components for smart meters and smart meters as a finished product must meet several technical standards laid down in the EU legislation. The manufacturer must carry out a conformity assessment and if compliant, the product must be marked with the CE mark. With a few exceptions all components must be marked with the CE mark. Electronic components, a sub-system or parts of a finished product do not legally require a CE mark, however, market requirements mean that nearly all customers will still demand the CE mark for most components, particularly if the components are critical to the application. For smart meters the following directives may be relevant:
  - Electromagnetic compatibility (EMC Directive 2004/108/EC)
  - Low voltage equipment (LVD 2006/95/EC)
  - Ecodesign for Energy related products (Directive 2009/125/EC)
- **Waste of Electrical and Electronic Equipment (WEEE).** If you want to export electronic or electrical products to the EU, you have to take into account that your EU buyers have obligations regarding the disposal of these products. EU producers are obliged to participate in product take-back schemes. Although, this does not directly affect exporters from developing countries, the requirements may have an impact in terms of EU buyers asking their suppliers to meet specific design requirements or provide certain information.
- **Labelling of energy-related products.** EU producers and exporters are obliged to indicate energy consumption on household appliances and other energy-related products (the list is being extended to include industrial products). Make sure you check when importing your products and discuss this with your European customers.
- **REACH regulation** to manage the risks from chemicals and provide safety information on the substances concerned. This legislation restricts the use of certain hazardous chemicals. Furthermore, it sets some requirements regarding information on the used chemicals. Manufacturers are required to provide their buyers with information on the properties of chemical substances used.
- **Restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS).** The directive bans the introduction into the EU market of
  - Apply for the CE mark, which is required by all customers, even if your product is a sub-system or part of a finished product and legally does not require the CE mark. If you are a manufacturer, you have to be familiar with the process of affixing the CE marking to your products. [The European Commission](#) has a very insightful website that illustrates the key steps from the start to trading the product. See the following documents for more information on EU legislation on CBI's Market intelligence platform:
    - [CE marking for Electromagnetic compatibility](#)
    - [CE marking for Low Voltage Devices](#)
    - [CE marking for Eco-design of energy related products](#)
  - Make sure your product design complies with WEEE and enables product recycling, recovery or dismantling. (Note that these requirements may differ per EU Member State.) Carefully formulate labels and mark products in accordance with WEEE (e.g. the symbol of the crossed-out wheellie-bin). See the document EU legislation: [EU legislation: Waste Electrical and Electronic Equipment \(WEEE\)](#) on CBI's Market intelligence platform.
  - Make sure you indicate all product details (including, energy class, performance, capacity, noise level, etc.) required by the EU. See the document on EU legislation: [Energy labelling of energy using and energy-related products](#) on CBI's Market intelligence platform.
  - Ask your buyer for their requirements regarding REACH. List all chemicals, including raw materials and additional materials, used in your production process. See the document [Chemicals REACH](#) on CBI's Market intelligence platform.
  - Make sure that none of the hazardous substances referred to in the RoHS Directive is used in your production process. Exporters of electronic components have to meet the

electrical and electronic equipment that contains more than the agreed levels of lead, cadmium, mercury, hexavalent chromium, polybrominated biphenyl and polybrominated diphenyl ether flame retardants.

requirements under both RoHS and REACH, since they are complementary. See the document [Substances in Electrical and Electronic Equipment \(RoHS\)](#) on CBI's Market intelligence platform.

## Non-Legislative Requirements



- **Quality management systems (QMS) – ISO 9001.** If you plan to export to Europe, all products must meet the buyers' quality demands. ISO 9001 is designed to make sure that the manufactured and/or exported products to Europe meet the needs of customers. This document provides information on the world's most widely used QMS.



- **Parameters for Smart meter technologies, using a unique frequency range, ISO 18000.** There are several documents for various air interface communications at defined frequency range.



- **Data encoding rules and logical memory functions, ISO 15961, 15962, 15963.** The ISO standards for item management address the interface with the application system, deal with data processing, and describe numbering systems for the identification of RF tags.



- **Information security management system, ISO 27001.** The ISO standard for managing information security and instituting security controls.



- **Occupational health and safety in the electronic components sector.** Occupational health and safety (OHS) issues are all aspects related to labour conditions and are very often part of EU buyers' social requirements for their suppliers.

### Considerations for action

- Apply for ISO 9001 as quickly as possible and understand your target customers' requirements.
- See the document [Quality management systems](#) on CBI's Market intelligence platform.
- Familiarise yourself with different parts of ISO 18000 and find out if your products fall under one or several of the defined frequency ranges. See the ISO webpage for more information on the guidelines [ISO 18000](#).
- Familiarise yourself with ISO standards for item management and find out if your products fall under one or several of the defined data management standards. See the ISO webpage for more information on the guidelines [ISO 15961, 15962, 15963](#).
- Familiarise yourself with ISO standards for information security and find out if your products fall under one or several of the standards. See the ISO webpage for more information on the guidelines [ISO 27001](#).
- Consider implementing a management system on OHS (e.g. OHSAS 18000). European buyers are becoming increasingly sensitive in terms of transparency in the supply chain and in labour conditions at all levels. Even though these requirements are not mandatory, they will definitely give you a competitive advantage over other DC exporters if you can comply with them. See the document [Occupational health and safety in the electronic components sector](#) on CBI's Market intelligence platform.



- **Electronic Industry Citizenship Coalition (EICC) Initiative.** The most important sustainability initiative in the Electronics Sector, in Europe and internationally, focuses on social, ethical, health and safety, as well as environmental issues. Members are required to comply with the Code requirements. Some industry buyers can require their suppliers to follow the EICC code of conduct. This is particularly relevant for first tier suppliers

- Find out what buyers (read industry) may require regarding the EICC code of conduct. Try to implement this policy; this will give you an advantage over other exporters. Explain your steps in this area on your website and in other company literature. See [EICC](#) webpage for more information on the sustainability initiative.

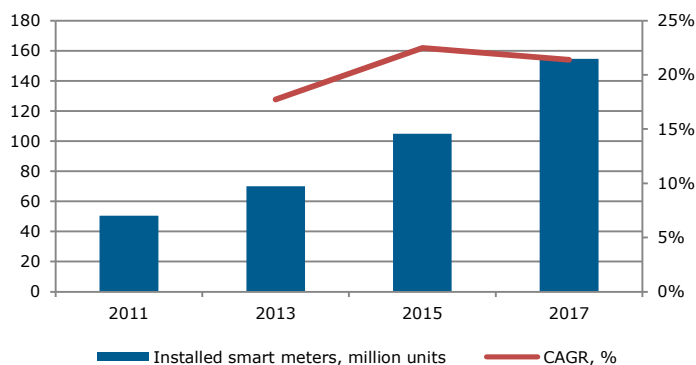
## Trade and Macro-Economic Statistics

### Use of Smart Meter Technologies in Europe

*Smart Meter technology is forecast to grow significantly, in particular in France, the UK and Spain, where the biggest smart meter rollouts are planned in the next few years. DC exporters have opportunities to enter these markets with low-price and low-tech components and sub-assemblies for smart meter technology. Co-design and co-innovation can also advance European sales of electronic components and sub-assemblies made by DC exporters.*

According to Navigant Research, more than 237 million smart meters will be installed in Europe between 2011 and 2020, with over 30 million meters deployed annually during the peak years of activity (2015-2019). A report by Berg Insight estimates that around € 15.8 billion will be invested to install 110 million smart meters in Europe by 2017. By 2020, smart meters are expected to have 90% penetration of the electricity metering market in Western Europe and 28% in Eastern Europe.

**Figure 1: Number of installed smart meters in Europe, million units**



Source: Berg Insight

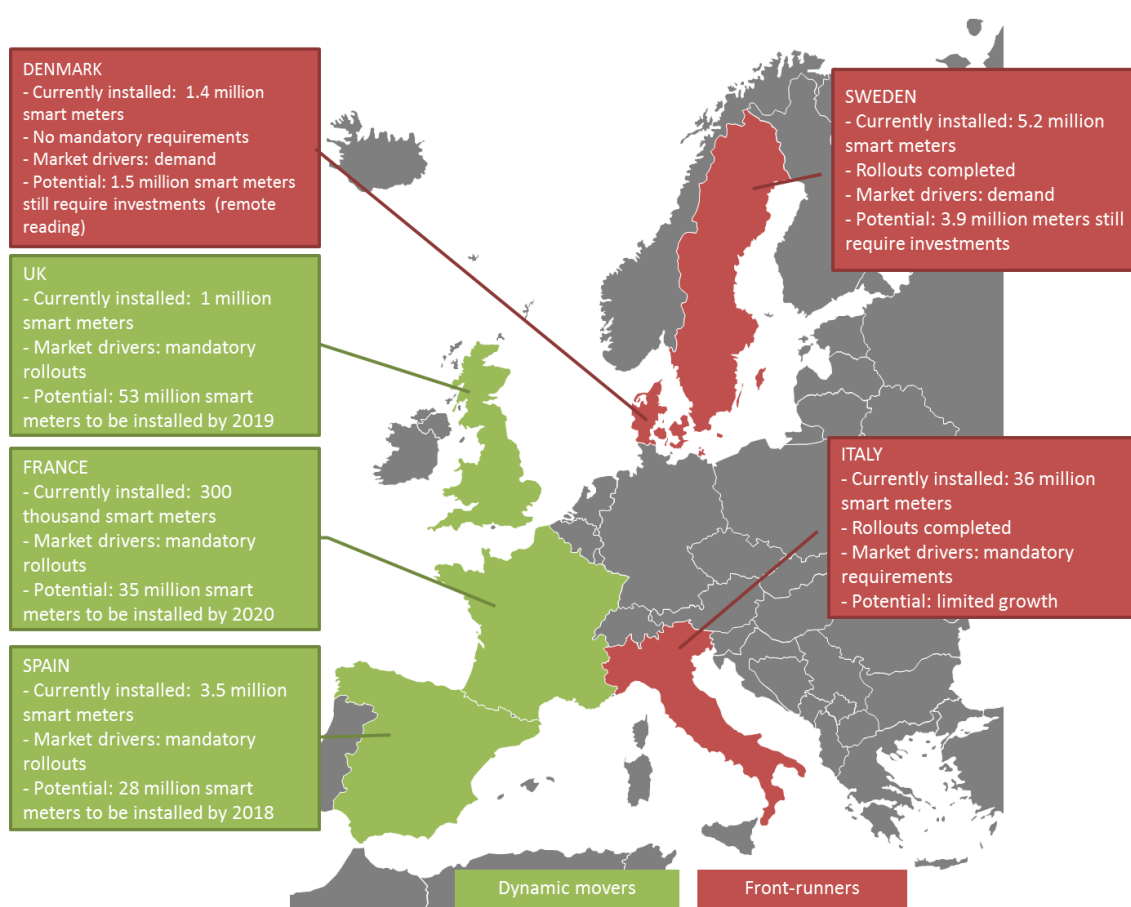
A 2009 EU directive has called for installing smart meters in 80% of EU households by 2020, but the uptake has been irregular across Europe. **Italy, Sweden, Denmark** are among the “**Front-runners**” and early adopters of smart meters. Italy is the European pioneer of smart metering, it rolled out 36 million smart meters, covering 90% of all households between 2001-2008, while Sweden installed such meters in 5.2 million households between 2003 and 2009. In Denmark there is no legal requirement for a full rollout but rather smart meter obligation only for certain categories of consumers, e.g. newly built houses. Nevertheless, the utilities go ahead with the installation of smart meters based on synergies or customer demands.



Countries such as **France, Spain and the UK** are considered “**Dynamic movers**” in the smart meter arena. Most of them have already decided on a mandatory rollout with a specified timetable. France is planning a deployment of 35 million smart meters from 2014 to 2020, the UK will install 53 million by 2019 and Spain will install 28 million by 2018.

In the immediate future, DC exporters should be targeting the “Dynamic movers” group, where the rollouts have not yet been completed, especially France, Spain and the UK, due to the size of these markets.

**Figure 2: Level of implementation of smart metering in Sweden, Denmark, Italy, UK, France, and Spain**



Sources: GIA research, European Landscape Report 2012 (European Commission under the Intelligent Energy - Europe Programme)

#### Most important developments

- Smart meters are an increasingly attractive application for electronic components. The smart meter penetration of the European market was 18% in 2011 and is expected to increase to 56% and 90% in 2017 and 2020, respectively. The aggregate investment cost for the smart meter deployment between 2011 and 2017 is estimated at around € 15.8 billion.

#### Considerations for action

- Electronic component producers have opportunities in supplying European smart meter manufacturers with low-cost hardware and electronic components, e.g. sensors, capacitors, resistors.

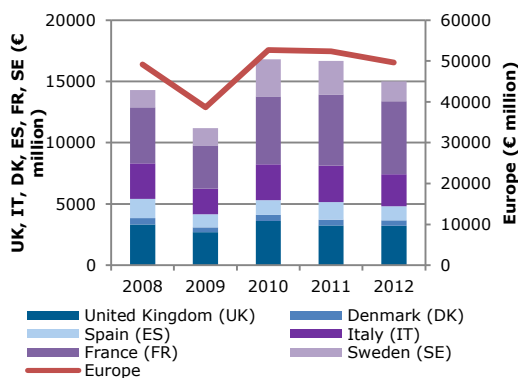
(Source: Berg Insight)

- Front-runners:** Italy, Sweden and Denmark are extremely advanced in smart meter deployment, therefore the opportunities in these countries will be limited in the next 10-15 years, i.e. the smart meter lifespan. There may be opportunities for smart meter replacements and upgrades, e.g. in Sweden and Denmark.
- Dynamic movers:** France, the UK and Spain are the next countries to implement large scale smart meter rollouts, with some 116 million smart meters to be deployed by 2020. These countries are currently establishing their supply chains, in preparation for the rollouts. Landis+Gyr, Elster, Itron and Iskraemeco are some of the leaders in the European market and have been working together on interoperability standards across markets in Europe.
- Depending on your development and investment plans, consider improving your know-how and look for opportunities to innovate and co-design second generation smart meters with the European smart meter providers. Keep up to date with component technological developments and specifications. Find out who are the potential customers in these countries. Consider supplying components and/or sub-assemblies to local smart meter manufacturers (e.g. Kamstrup A/S in Denmark).
- Find out who are the potential customers in these large rollout markets. These could be smart meter manufacturers (Landis+Gyr, Iskraemeco), chip manufacturers, software developers, communication companies (e.g. Arqiva in the UK or Connode in Sweden) or any other integration service providers. The contact with these companies should be made soon as they are currently establishing their supply chains.

## Imports and Exports of Electronic Components

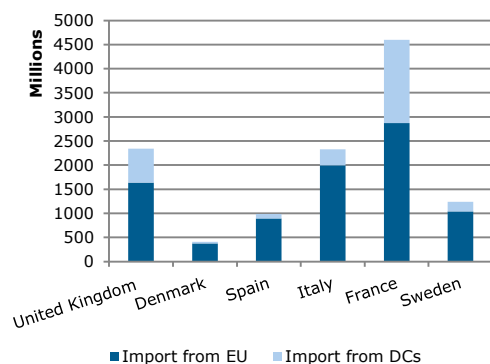
Electronic components that are typically used in smart meters include sensors, capacitors, resistors and electromechanical components. Development of imports and exports demonstrate the increasing significance of cooperation with developing countries (DCs). DC exporters have better opportunities in supplying the "Dynamic movers" (UK, Spain, France) with low-cost hardware and electronic components, e.g. sensors, capacitors, resistors. Innovation and co-design of second generation smart meters with the "Front-runners" (Italy, Sweden, Denmark) can advance sales of electronic components in the long-term.

**Figure 3: Total imports of sensors, capacitors, resistors and electromechanical components, value in € million**



Source: Eurostat (2013)

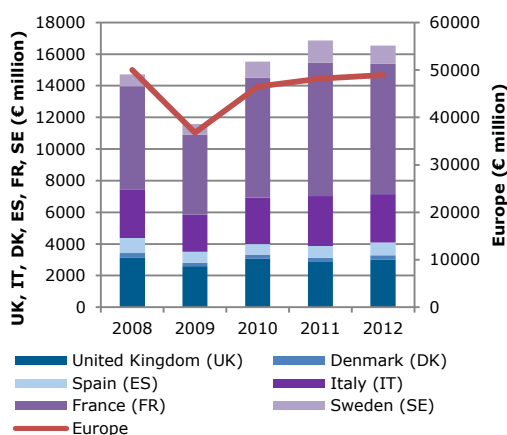
**Figure 4: Import of sensors, capacitors, resistors and electromechanical components from DCs and Europe in 2012, value in € million**



Source: Eurostat (2013)



**Figure 5: Total export of sensors, capacitors, resistors and electromechanical components, value in € million**



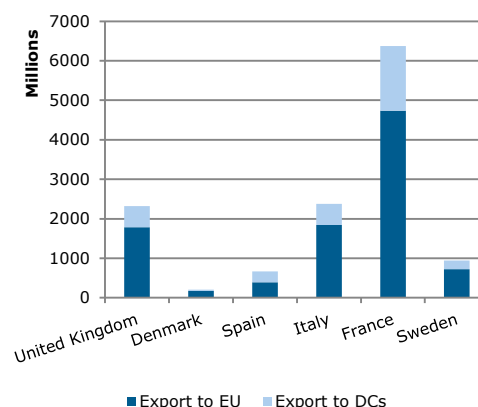
Source: Eurostat (2013)

### Most important developments

- Imports and exports of sensors, capacitors, resistors and electromechanical components, which are typically used in smart meters, had both ups and downs in the last five years in Italy, United Kingdom, Denmark, Sweden, Spain, and France. Most of the components are imported from other European countries such as Germany. Cooperation with developing countries has strengthened, i.e. imports from DCs demonstrated a stronger growth in France (CAGR<sup>2</sup> 15.6% in 2008-2012), Sweden (CAGR 14.5% in 2008-2012), and Italy (CAGR 3.7% in 2008-2012). Imports of electronic components from DCs are expected to continue to grow at a faster rate, in particular for "Dynamic movers" (France, the UK and Spain).
- Front-runners:** Total imports of sensors, capacitors, resistors and electromechanical components in Italy, Sweden and Denmark have slowed down (-25% YoY in 2012). In the short term, front-runners show limited opportunities for DCs, as these countries have already completed smart meter rollouts. The main opportunities relate to smart meter replacements or upgrades.
- Dynamic movers:** France is the largest importer of sensors, capacitors, resistors and electromechanical components, and it recorded the highest CAGR growth in 2008-

<sup>2</sup> CAGR - Compound Annual Growth Rate

**Figure 6: Export of sensors, capacitors, resistors and electromechanical components to DCs and Europe in 2012, value in € million**



Source: Eurostat (2013)

### Considerations for action

- Electronic component producers have opportunities to supply European smart meter manufacturers with low-cost hardware and electronic components, e.g. sensors, capacitors, resistors.
- Depending on your development and investment plans, consider improving your know-how and look for opportunities to innovate and co-design second generation smart meters with the European smart meter providers. Consider supplying components and/or sub-assemblies to local smart meter manufacturers (e.g. Kamstrup A/S in Denmark).
- Find out who are the potential customers in France, Spain, and the UK. Approach local smart meter manufacturers (Landis+Gyr, Iskraemeco), chip manufacturers, software

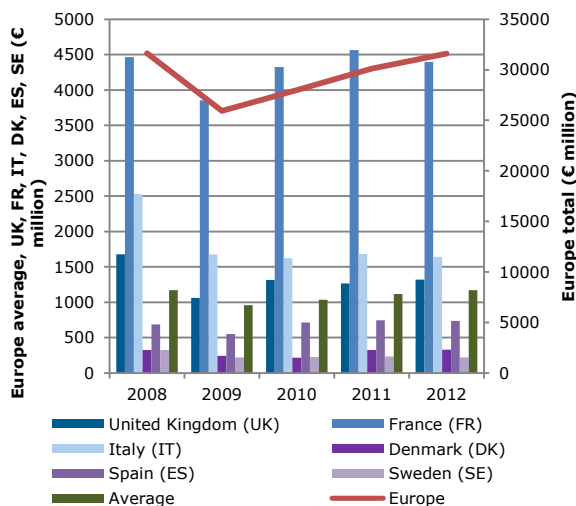
2012 (+7%). Imports of electronic components that are typically used for smart meters in France, the UK and Spain are expected to see better development in the next five years compared to historic market growth. These countries have announced ambitious smart meter rollout plans and are currently establishing their supply chains.

developers, communication companies (e.g. Arqiva in the UK or Connode in Sweden) or any other integration service providers. Consider targeting "Dynamic movers" through re-exports in other significant European markets, e.g. Germany.

## Production and Consumption of Electronic Components

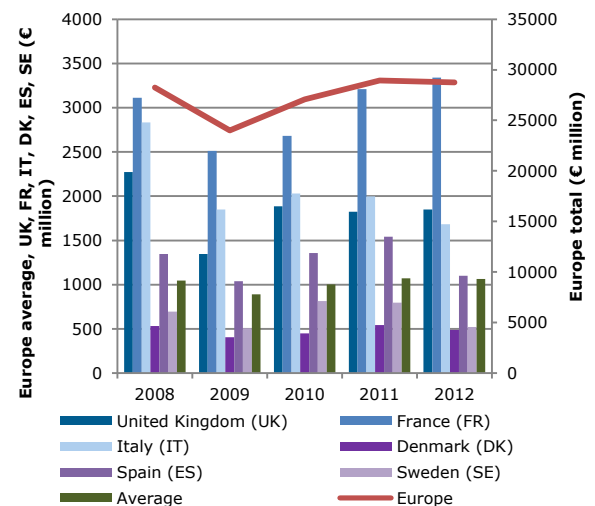
Production of lower-cost electronic components is being increasingly outsourced, and the importance of cooperation with developing countries is growing. DC exporters should target countries labelled as "Dynamic movers" in the first place; opportunities in the "Front-runners" markets are mainly long-term.

**Figure 7: Production of sensors, capacitors, resistors and electromechanical components, value in € million**



Source: Prodcom(2013)

**Figure 8: Consumption\* of sensors, capacitors, resistors and electromechanical components, value in € million**



\*Apparent consumption (Production-Exports+Imports)  
Source: Prodcom (2013)

### Most important developments

- **Front-runners:** Production of sensors, capacitors, resistors and electromechanical components has been under-performing in the "Front-runners" markets (Italy, Sweden, Denmark), mainly as a result of the economic crisis and industries re-focusing on more high-tech industries, while outsourcing the production of many electronic components. In the short term, the demand outlook is not as positive as it is for "Dynamic movers" or other European countries with a strong production background (e.g. Germany).

### Considerations for action

- DC exporters have opportunities in the co-design of second generation smart meters with "Front-runners". Opportunities, however, are seen only in the long-term.

- Dynamic movers:** France is the biggest producer of sensors, capacitors, resistors and electromechanical components out of the six European countries in terms of scope (the UK, Italy, Spain, France, Denmark, Sweden), but production value declined slightly between 2008 and 2012 (-0.4% CAGR). Production in the UK was down by 6% CAGR in 2008-2012, but in Spain it increased 2% CAGR in 2008-2012. With the increasing importance of cooperation with DCs, production of lower-cost electronic components will see negative development in "Dynamic movers" markets. The demand for electronic components has been strong in France over the last 5 years and is set to grow, driven by increasing investments in markets such as smart meters. Spain and the UK were hit by the economic crisis in Europe and posted negative demand growth, but are set to recover in 2013-2017.
- France is the priority country for DC exporters, as it is a big market with rapidly growing demand for all of the components used in the production of smart meters, including sensors, capacitors, and resistors. Spain and the UK are smaller markets, but also offer a potential, in particular for low-cost components.

## Market Trends

### Most important developments

- One of the major challenges facing smart meter suppliers is the cost of the smart meters and the cost of refitting the infrastructure to support two-way communication. The costs range from € 100-400 per metering point, depending on the choices in communication infrastructure, functionalities and local conditions. Most electronic components used in smart meter designs are standard components, saving time and money, but there is an increasing requirement for higher reliability components to make sure the units can meet the life expectancy needed in the field.
- Development of smart grid and energy distribution creates a new market for suppliers of power electronics and for suppliers of smart meters as finished products in Europe. The energy distribution market in Europe is driven by:
  - Technological developments such as management and optimisation of energy supply and demand, as well as the ongoing development of energy smart controllers, storage, transportation and security solutions;
  - Technological developments that enable the penetration of renewable sources in power generation (e.g. solar panels, wind turbines);
  - Governmental support of the use of renewable energy in the EU;
  - Cost-efficiency of power generated by

### Considerations for action

- As utilities try to drive down costs, the component/meter suppliers will need to further integrate less costly electronic components or sub-assemblies. Position yourself so that you can provide cost-efficient standard components, as well as, more integrated and more reliable solutions, which will allow OEMs to save costs.
- Opportunities for DC exporters that have the necessary know-how in smart metering include:
  - participation in the smart grid pilot projects through co-design;
  - specialisation in electronic components for smart meters. Consider either cooperation with companies that produce smart metering solutions, or offering your own solutions, including hardware (assemblies or sub-assemblies), software, solution design and know-how.

renewable sources.

Along with the development of smart grid and energy distribution, the importance of smart meters (used not only for consumption recording, but also for two-way communication between the meter and the central system) is set to increase.

- Two-way communication will remain one of the critical technological issues in smart meter development. Currently, power line communication (PLC) has the leading role in the European meter communications market, but not to the exclusion of GSM/GPRS. The role of private radio frequency (RF) systems is less clear. The trend will be towards expanding beyond remote data connection, into multipurpose smart grid communication networks.
- The large scale of some national deployments across Europe will likely drive standardisation programmes, which will require metering suppliers to meet strict requirements on interoperability, and, in turn, will add to the price pressure in this market.
- There are some pilots in Europe for the installation of multi-utility smart metering configuration where metering for electricity, gas and water share a common communication infrastructure/interface. In addition, other smart meter applications are being explored including using smart meters as interfaces for smart home devices and as support for electric vehicles (e.g. Yello Strom in Germany, has partnered with Digital Strom, Google and others to offer some customers the ability to monitor and control their electricity consumption in real time, enabling them to remotely dim lights or alter the status of appliances).
- European OEMs are starting to separate high-tech and low-tech, and high-price and low-price electronic product parts, with low-tech components sourced mainly overseas and high-tech solutions mainly produced by European OEMs.
- The supply chain for smart meters includes suppliers of hardware, software, system integration services, and communication providers creating opportunities for DC exporters to enter the market through different suppliers. Profit margins are migrating from hardware to software, network and communications.
- With the growing role of international
- Make sure that your components are compatible with the predominant communication technologies. Follow the developments in the smart meter communications arena in order to provide the most up-to-date solutions. Educate yourself on the industry standards and issues, such as information security. Make sure to emphasise these qualities when marketing your components.
- Align yourself with companies which already work on the issues of interoperability (e.g. Landis+Gyr, Elster, Itron, Iskraemeco). Make sure that your components fulfil interoperability requirements and that you emphasise this quality in your marketing efforts.
- Research which companies are working on smart meter integration and new applications for smart meters. Find out whether they have specific component needs and consider including such niche components in your range.
- Create a product portfolio on a modular basis, enabling you to offer low-tech electronic parts separately or in combination with high-tech electronics. European OEMs will be able to make the decision based on their needs, intellectual property rights and the product quality.
- DC exporters have opportunities to supply electronic components for smart meters not only directly to smart meter manufacturers, but also to integration service and software providers. Research solution providers and consider partnering with these companies.
- European SMEs present better opportunities as

cooperation, European companies will increasingly have to face various risks that need to be measured and managed in order to keep the total cost of ownership (TCO) at a reasonable level. Both smaller and larger companies will increasingly look for the most reliable suppliers and will try to eliminate risk through supplier contracts and cost management.

potential customers for DC exporters, but larger companies may also 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 in 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 Useful Sources);
- 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 Market Channels and Segments for Electronics and Electrical Engineering, because the supply chain of electronic components for smart meters does not differ significantly from this general overview.

## Market Competitiveness

See CBI Market Competitiveness for Electronics and Electrical Engineering, because competitiveness of electronic components for smart meters does not differ significantly from this general overview.

## Main Sources

- Navigant Smart Meters Research, URL: <http://www.navigantresearch.com/research/smart-utilities/smart-meters>
- Berg Insight, Smart Metering in Europe, URL: [www.berginsight.com](http://www.berginsight.com)
- SmartRegions, supported by the European Commission under the Intelligent Energy - Europe Programme, URL: <http://www.smartregions.net/>
- Intelligent Utility online portal, URL: [www.intelligentutility.com](http://www.intelligentutility.com)

### *Leading trade fairs in Europe*

- Hannover Messe, URL: [www.hannovermesse.de](http://www.hannovermesse.de)
- Electronica, URL: [www.electronica.de](http://www.electronica.de)
- PCIM, URL: [www.pcim.com](http://www.pcim.com)
- EFA, URL: [www.efa-messe.com](http://www.efa-messe.com)
- Belektro, URL: [www.belektro.de](http://www.belektro.de)
- Embedded World, URL: [www.embedded-world.de](http://www.embedded-world.de)
- CeBIT, URL: [www.cebit.de](http://www.cebit.de)

### **More information**

CBI market information:

- CBI Tradewatch for Electronics and Electrical Engineering;
- CBI Trendmapping for Electronics and Electrical Engineering;
- CBI Market Channels and Segments for Electronics and Electrical Engineering;
- CBI Market Competitiveness for Electronics and Electrical Engineering.

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