

Mutual evaluation of regulated professions

Overview of the regulatory framework in the construction/craft sector by using the profession of electricians as example¹

*Report based on information transmitted by Member States
and on the meeting of 24 November 2014*

1. CONTEXT AND AIM OF MUTUAL EVALUATION EXERCISE

The third mutual evaluation discussion concerning the craft sector and in particular the profession of electrician, brought together Member States, Iceland, Liechtenstein, Norway and Switzerland in order to discuss the review and modernization of their regulations on professional qualifications governing access to professions or professional titles.

For more background to this exercise, reference is made to previous discussion papers prepared for the mutual evaluation exercise (transport and real estate sector, architects and engineers professions) as well as to the Communication of the Commission of June 2012 on the implementation of the Services Directive² which stressed the importance that the framework for professional services needs to remain fit for purpose; the Professional Qualification Directive, amended in November 2013³ and the work plan presented by the Commission in its Communication of 2 October 2013 on the mutual evaluation process⁴.

In this context the Commission would once again like to recall that in order to improve access to professions and to facilitate the mobility of qualified professionals within the internal market, as well as the cross-border provision of professional services, a more flexible and transparent regulatory environment must be promoted. In addition to this, a positive impact may be felt upon the employment situation, in particular for young people, in turn enhancing economic growth.

To note that the proceeding is based on information submitted by participating countries to the Commission. This report presents an overview of the information communicated to the Commission by Member States, Iceland, Liechtenstein, Norway and Switzerland⁵ either through specific reports⁶ or through entries in the professional regulations database⁷ as well as of the discussions which took place during the meeting on

¹ This report is based on information submitted by the MS to the regulated professions database and on the reports sent to the Commission in autumn 2014.

² COM(2012)261

³ Directive 2005/36/EC of the European Parliament and of the Council of 7 September 2005 on the recognition of professional qualifications, OJ L 255, 30.9.2005, as amended by Directive 2013/55/EU of the European Parliament and of the Council of 20 November 2013 amending Directive 2005/36/EC on the recognition of professional qualifications and Regulation (EU) No 1024/2012 on administrative cooperation through the Internal Market Information System ('the IMI Regulation') OJ L 354, 28.12.2013.

⁴ Communication from the Commission to the European Parliament, the Council and the European Economic and Social Committee on Evaluating national regulations on access to professions COM(2013)676 final, 2.10.2013.

⁵ Collectively referred to as "Member States" in this document.

⁶ No reports have been transmitted by Greece, Hungary and Norway.

⁷ However, not all entries in the database were up-to-date when this report was established.

30 September 2014 on mutual evaluation dedicated to this sector⁸. This report is established with the aim to facilitate the mutual evaluation exercise and is therefore not a comprehensive report on the sector nor on the specific profession. Whilst the following focuses upon the profession of electricians, as representative of the construction and craft sector, the experiences and understanding gained from this discussion is meant to be understood across the professional landscape. Observations made may have a general or more meaningful application to the functions and consequences of regulation in other professions and it is hoped, in this way, to lead towards an overall better application of regulatory measures in the professions.

Based on their conclusions of the review exercise, by 18 January 2016, Member States should submit a report to the Commission in accordance with Article 59(6) of Directive 2005/36/EC.

Any remarks made in this report should therefore be understood as holding potential wide-ranging relevance for all professions and Member States are invited to draw upon these insights when preparing their National Action Plans.

2. ECONOMIC AND STATISTICAL INFORMATION ABOUT THE CONSTRUCTION/CRAFT SECTOR

The analysis hereafter is based on the construction sub-sector of "*Electrical installation*" (Sub-group 43.21 in the Nace rev.2 classification of economic activities). According to the Nace definition this class includes the installation of electrical systems in all kinds of buildings and civil engineering structures of electrical systems⁹.

In 2011 (latest data available), the electrical installation sector employed a total workforce of 1.563.400 persons in the EU(27) across 349.200 enterprises (equivalent to 10% of the construction sector). The **Total value-added generated** by the sector amounted to EUR 60 billion in 2011 which was about 12% of the amount generated by the whole construction sector. Over the period of 2008-2011 the **level of employment** in the sector EU declined by 4%. There were however marked differences between countries. For instance, in **Belgium, Cyprus, Finland** and **Germany** (+36%), employment in the sector grew by more than 10% between 2008 and 2012. According to figures provided by **Germany**, the number of people employed in all crafts has declined by 2% during the global economic crisis between 2008 and 2013 and by close to 9% since 2003. **Cyprus** reports also a different reality: due to the economic crisis and the sharp decline in construction of new residential buildings, the employment situation of electricians is considered serious, although no figures on their evolution has been

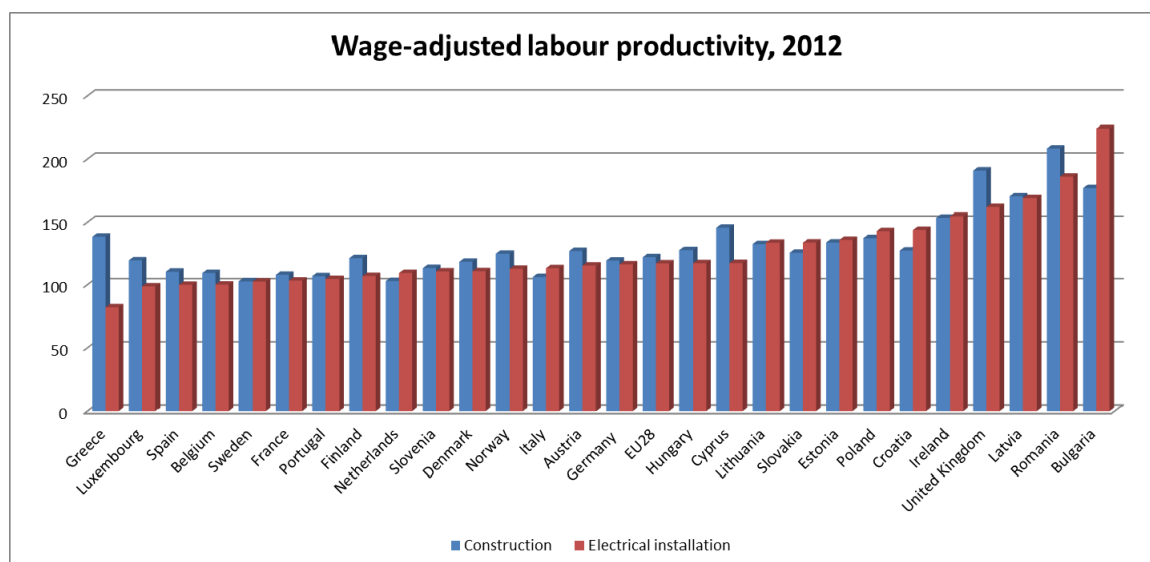
⁸ For the purpose of this meeting Member States were organised in 4 different groups of 8 Member States (+ Iceland, Liechtenstein, Norway and Switzerland). Groups were organised as follow:
Group 1: Belgium, Croatia, Denmark, Luxembourg, Poland, Portugal, Spain, Switzerland;
Group 2: Estonia, Hungary, Italy, Ireland, Liechtenstein, Malta Romania, Slovenia;
Group 3: Bulgaria, Cyprus, Czech Republic, Iceland, France, Latvia, Slovakia, Sweden;
Group 4: Austria, Germany, Greece, Finland, Lithuania, the Netherlands, Norway, United Kingdom.
The focus of the discussion differed depending on the Member States sitting around the table.

⁹ This includes the installation of: electrical wiring and fittings, telecommunications wiring, computer network and cable television wiring, including fibre optic, satellite dishes, lighting systems, fire alarms, burglar alarm systems, street lighting and electrical signals, airport runway lighting, electric solar energy collectors but excludes the construction of communications and power transmission lines and the monitoring and remote monitoring of electronic security systems, such as burglar alarms and fire alarms, including their installation and maintenance.

provided. For the majority of countries however, the evolution of employment is characterised by a sometimes sharp decline. In **Bulgaria, Latvia** and **Spain** the level of employment in the sector dropped by more than 30% between 2008 and 2013 and by over 20% in **Croatia, Greece, Estonia, Lithuania** and **Portugal**. See the annex for more information.

Between 2008 and 2011 the **level of turnover** in the electrical installation sector declined by about 2% in the EU. The evolution of the turnover since 2008 considered alongside employment levels reveals a dichotomy between those countries where professionals from the sector have been hit by the economic and construction crisis (e.g. **Spain, Ireland, Hungary, Latvia, Lithuania**) and countries where the sector has continued to grow over the period (e.g. **Belgium, Italy, Germany, Finland**).

The **apparent labour productivity**, measured by the indicator of value-added per person employed was similar in the electrical installation and construction sector, with an EU average of EUR 38.000 per person employed in 2012. At country level, the highest levels were observed in **Norway, Ireland, UK, Sweden** and **the Netherlands**. It is interesting to note the differences in productivity levels between electrical installation and construction sectors in particular in **Ireland, UK, Austria, Luxembourg, Cyprus** and **Greece**. To take into account the differences in labour costs between countries, it is necessary to relate productivity (value-added per person employed in this case) to an indicator of labour costs (average personnel costs here). The ratio of the two variables is reported as the **wage-adjusted labour productivity**. Using this indicator, the top five countries in 2012 were **Bulgaria, Romania, Latvia, UK** and **Ireland**. Low wage-adjusted labour productivity could have negative impact on operating profits because of the high relative cost of personnel and therefore could indicate low profitability for the professions concerned.

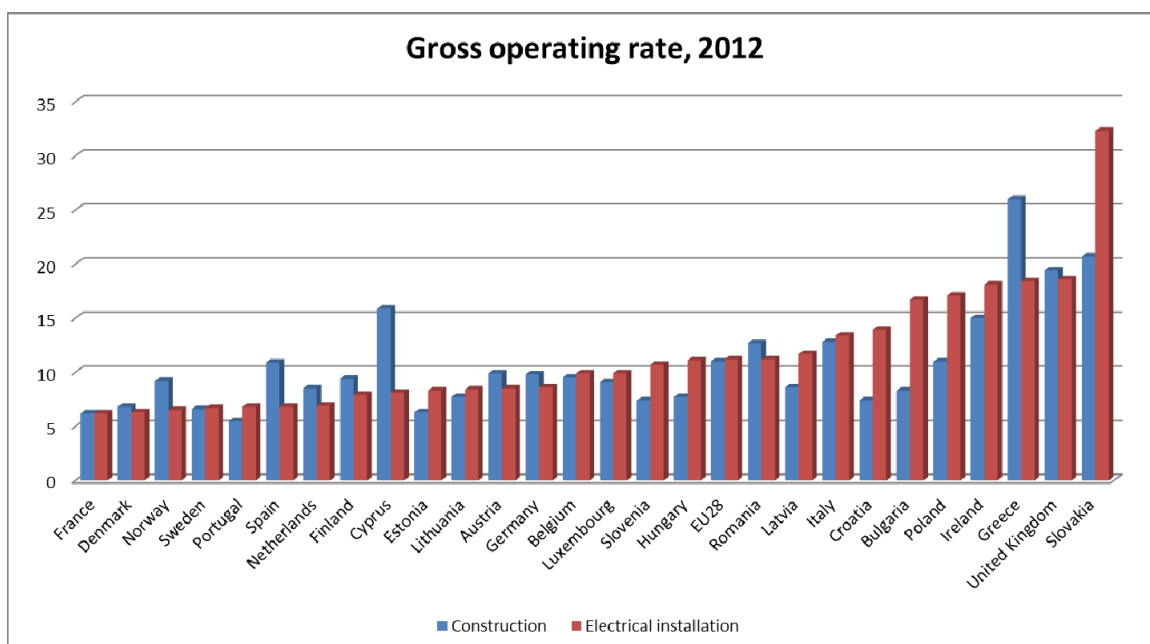


CZ, ISL, LIE, MT, CH: no data available; EE, EU28, FR, IE, IT, LU: 2011

Source: Eurostat, Structural Business Statistics

Figures on **gross operating rate** (the ratio between gross operating surplus and turnover) for 2012 indicates that the sector of electrical installation had an average gross operating rate of 11%, similar to that of the construction sector but higher than the non-financial business economy average (10,1%). At national level, the most profitable countries were the following: **Slovakia, UK, Greece, Ireland** and **Poland**. In the case of **Slovakia**, the sector was even significantly more profitable than the construction sector as a whole while in **Greece** and **Cyprus** the reverse was true. These figures should however be

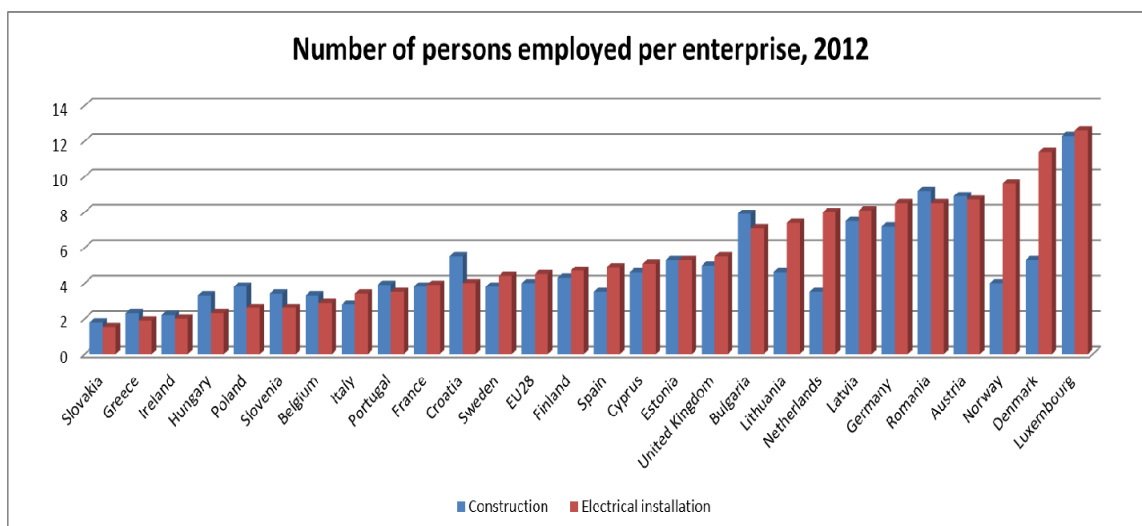
treated with caution as the sector is characterised by many one-person companies and/or unpaid family workers which imply a low level of personnel costs and overestimate the gross operating rate. Indeed, the **share of employees in total employment** in the electrical installation sector was 82% against 94% in manufacturing according to Eurostat figures for 2011.



CZ, ISL, LIE, MT, CH: no data available; EE, EU28, FR, IE, IT: 2011; LU: 2010

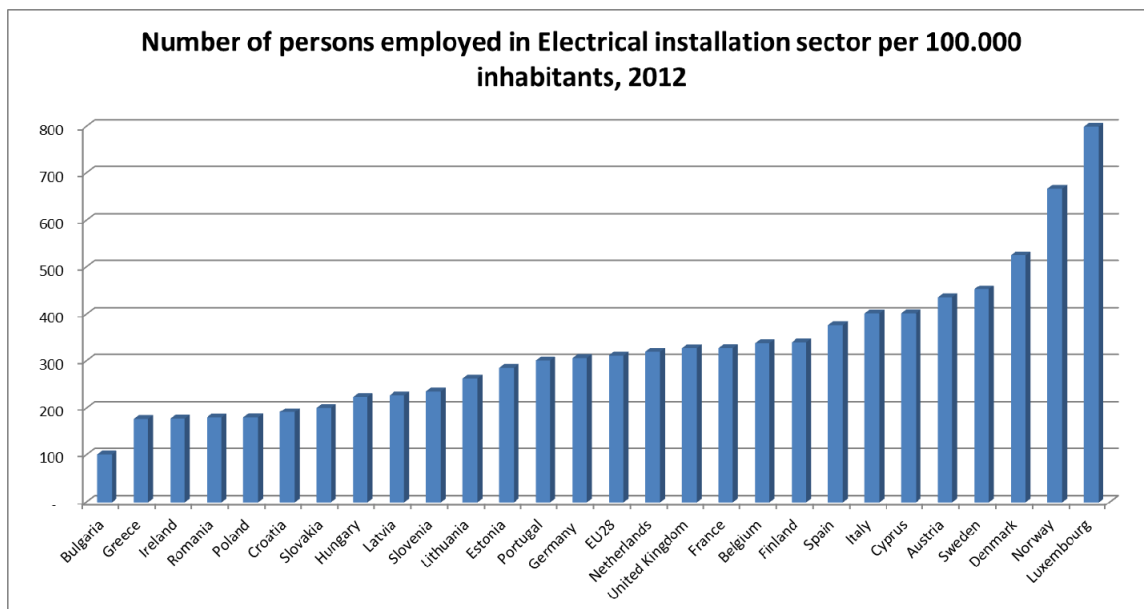
Source: Eurostat, Structural Business Statistics

The sector is characterised by the high proportion of small companies. The **average size of enterprises** in the electrical installation sector was 4,5 in 2011. In comparison, companies in the manufacturing sector had on average 14 employees.



CZ, ISL, LIE, MT, CH: no data available; EE, EU28, FR, IE, IT, LU: 2011

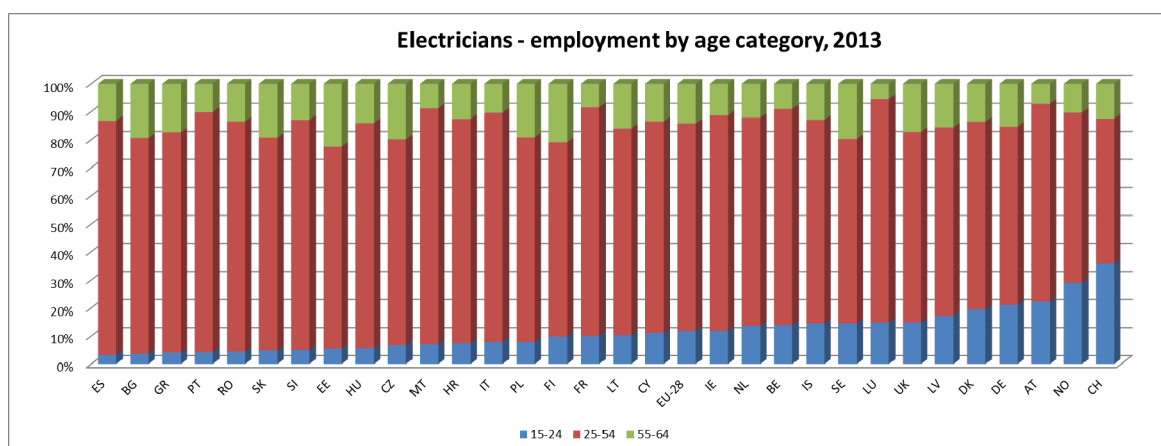
Source: Eurostat, Structural Business Statistics



CZ, ISL, LIE, MT, CH: no data available; EE, EU28, FR, IE, IT, LU: 2011

Source: Eurostat, Structural Business Statistics

On the basis of the European Labour Force Survey, it is possible to obtain occupation specific characteristics. The ISCO category 741 covers the occupations of electrical equipment installers and repairers, what we will refer to in brief as electricians. According to the results from the 2013 survey, on average for the EU, 12% of persons employed as electricians were between 15 and 24 years of age, 74% between 25 and 54 and 14% between 55 and 64. The average population is relatively younger than in the rest of the economy for which the distributions is as follows: 9% between 15 and 24, 76% between 25 and 54 and 15% between 55 and 64. Differences are marked between countries: **Switzerland, Austria, Germany** and **Denmark** had the highest proportion of young workers, ranging from 36% to 19% of all electricians. This does not come as a surprise as these countries have some form of dual education system in place, whereby apprentices are quickly integrated into the labour market. At the other end Southern and Eastern European countries (with the exception of **Latvia**) had an older age structure with the proportion of those aged between 15 and 24 under 10% of the total.



Source: Eurostat, Labour Force Survey, ISCO category 741: Electrical equipment installers and repairers

There are no statistics at European level on the number of apprentices in specific sectors or professions however data were provided by some Member States. In **Austria** for instance, it is reported that out of the 38.812 persons members of the Federal Guild of Electrical, Building, Alarm and Communication Technicians, there were 5.137 apprentices (10.500 apprentices in the electrotechnology sector). In **Germany**, the

distinction is made between craft professions where a master craftsman certificate is required and those where this certification is not required.¹⁰ It is said that apprentices represent 11% of those employed in the crafts professions where the certification is required and around 3% in those where no certification is needed. **Denmark** reports that, concerning electricians, the number of trainees depend on the number of companies wanting a trainee which depends on the situation of the market and can vary a lot (from 800 to 1400 in the past ten years).

3. OVERVIEW OF REGULATION IN MEMBER STATES

Use of different notions, terms and procedures

According to the entries in the professional regulation database, Member States have adopted divergent approaches in terms of number and type of regulated professions that perform activities in the areas of electrical engineering and work conducted by electricians.

There are several categories of professions which cover the profession of “*electrician*”. For example, 13 Member States (**Denmark, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Malta, Norway, Poland, Portugal and Switzerland**) have notified at least one profession under the heading “*electrician/Senior electrician/Specialised electrician*”¹¹. 7 Member States (**Belgium, Cyprus, Czech Republic, Hungary, Norway, Slovakia and Switzerland**) have introduced information concerning the profession “*electrical equipment/appliances contractor/repairer/installer*”¹². 2 Member States (**Austria and Iceland**) have notified a regulated profession under the heading “*Electrical engineering/Electromechanical engineering*”¹³. Another 3 Member States (**Croatia, Spain, Portugal**) have introduced data about what seems to be a very similar profession, namely “*Electromechanical engineer*”¹⁴. And there is also an “*electrical engineer*”¹⁵ with entries from 4 Member States (**Cyprus, Greece, Hungary and Poland**).

| | <i>Electrician/ Senior Electrician/ Specialised Electrician</i> | <i>Electrical equipment/ appliances contractor/ repairer/ installer</i> | <i>Electrical engineer</i> | <i>Electrical engineering/ electro- mechanical engineering</i> | <i>Electromechanical engineer</i> | <i>Electrical services supervisor/ Electrical manager</i> |
|----|---|---|--------------------------------|--|---------------------------------------|---|
| AT | | | | x | | |
| BE | | x | | | | |
| BG | | | | | | |
| CR | | | | | x | |
| CY | | x | x | | | |
| CZ | | x | | | | |
| DK | x | | | | | |
| DE | x | | | | | |
| ES | | | | | x | |
| EE | | | | | | x |
| FI | | | | | | x |
| FR | x | | | | | |
| GR | x | | x | | | |

¹⁰ Same distinction is made in Croatia.

¹¹ Database entry 12099

¹² Database entry 12023

¹³ Database entry 12208

¹⁴ Database entry 6704

¹⁵ Database entry 6410

| | | | | | | |
|----|---|---|---|---|---|---|
| HU | x | x | x | | | |
| IE | x | | | | | |
| IT | x | | | | | |
| LU | | | | | | |
| LT | | | | | | |
| LV | | | | | | |
| MT | x | | | | | |
| PO | x | | x | | | |
| PT | x | | | | x | |
| RO | | | | | | |
| SI | | | | | | |
| SK | | x | | | | |
| SW | | | | | | |
| CH | x | x | | | | |
| IS | x | | | x | | x |
| LI | | | | | | |
| NO | x | x | | | | x |

Blue colour indicates Member States where, to date, no information has been submitted into the database under those professions

The following observations can be made in this respect:

Most Member States have notified the profession of electrician as so called "*annex IV*" profession, meaning that there is an automatic recognition of professional qualifications based on professional experience.

Looking at annex IV of Directive 2005/36, the activity of electrician falls under List I, major group 37, Electro technical industry, group 379 "*Repair, assembly and specialist installation of electrical equipment*" and major group 40, Construction, group 403 "*Installation work*". For both groups, automatic recognition applies in accordance with article 17 of the Directive.

However, whereas most Member States apply automatic recognition based on professional experience according to annex IV of the Directive, others apply the so called "general system" of recognition of professional qualifications according to Directive 2005/36.¹⁶ It seems that while more than half of the professions in this sector receive automatic recognition, some countries (**Cyprus, Greece, Slovakia, Spain and Portugal**) have generally opted to apply the general system. The only Member State who explained this in its report was **Estonia** indicating that while it does not regulate the profession of electrician in general, it regulates electrical supervisors whose recognition occurs under the general system.

Since May 2014, an interactive map¹⁷ regarding the regulated professions in all Member States has gone online. This is an essential part of the transparency process launched by the modernisation of the Directive on the recognition of professional qualifications in November 2013. If correctly updated, this interactive map gathers the most important information on how professions are regulated in the different Member States and could therefore be an interesting tool for professionals seeking information about the way a profession is organised in another Member State.

However, looking at the way the profession of electrician is reported and notified in the database by Member States, it seems doubtful whether an electrician searching for information about regulations in different Member States would find a clear answer

¹⁶ For electrical engineering requiring a higher level of education (art 11 d) or e) of Directive 2005/36), the general system normally applies.

¹⁷ http://ec.europa.eu/internal_market/qualifications/regprof/index.cfm?action=map

given the different terms used to describe the profession (i.e. electrician, electrician/Senior electrician/Specialised electrician, electrical equipment/appliances contractor/repairer/installer, Electrical engineering/Electro-mechanical engineering, Electromechanical engineer, etc.).

The multitude of categories, the unclear delimitation between categories and the overlap between different categories of the profession not only makes it difficult to understand and compare how these different professions are regulated. It also is likely to have an impact on access to the profession as well as on mobility.

In order to improve transparency, it would be beneficial to clarify the different categories of electricians. A first step could be to review the generic professions which exist in the database and introduce a simplification by limiting the number of different categories in the database, e.g. by regrouping certain of those categories.

At the same time, Member States are invited to carefully (re-)assess the information provided in the database to ensure it gives the correct and necessary information.

Aside from this and other possible differences in the definition of the activity in the database, it seems that the profession of “*electrician*” is in one way or the other regulated in most Member States as well as in **Iceland, Liechtenstein, Norway and Switzerland**.

Bulgaria, Estonia, the Netherlands, Portugal and the **United Kingdom** have reported that they do not regulate the profession of electrician. **Estonia** however regulates electrical supervisors or managers and **Portugal** has regulation in the sector of electrical installations for execution of private services. **Denmark** has reported that the profession of electrician is not regulated by law in the sense of Directive 2005/36/EC but the profession of electrical installers is regulated.

3.1. Activities covered

As far as, for example, the category of *Electrician/Senior Electrician/specialised electrician* is concerned, activities covered are sometimes described in a general way, e.g. as "professional involved in the development and repair of electrical installations" (**France**) or as "all electrical works other than minor domestic works" (**Ireland**), or explained in detail. For instance, in **Germany** the activity concerns the work of a self-employed person as an electrical-engineering technician and covers constructing, modifying and servicing electrical units (including their components) used in energy, building, communications and security technology and in systems electronics, and conducting these tasks in a way that is compliant with the relevant provisions of construction law, environmental law, and with the relevant safety regulations. However, in practice there seems to be little difference in substance.

Differences exist insofar as in some Member States the activity for installing lifts or activities in the field of gas installation are reserved to different groups of professionals, whereas in other Member States, e.g. in **Italy**, these activities are among those covered by a professional reported under the category *Electrician/Senior Electrician/specialised electrician*. Finally, in several Member States like **Finland, Lithuania, Malta, Norway, Poland, Slovakia, Spain** and **Switzerland** a distinction is made between different groups of electrical professionals according to the voltage professionals are allowed to operate with.

3.2. Scope of reserved activities

According to the information submitted, the scope of activities reserved to “electricians” also differs among Member States and includes e.g. in **France** the implementation, installation and the maintenance of electrical installations, in **Austria** the installation of electric power systems without any restriction on voltage or wattage; the installation of lightning protection systems and installation of alarm systems, installation of fire alarms. In other Member States the reserved activity is linked to the voltage a professional is working with, high voltages being reserved to better educated and more specialised professionals (**Finland, Lithuania, Poland, Slovakia and Switzerland**).

In more general terms, **Austria** reserves activities only for the pursuit of these activities as a self-employed person (same situation in **Croatia**¹⁸) or as a manager. Reserved activities in **Germany** also cover the work of a self-employed professional with the exception of simple tasks such as tasks that can be mastered after up to three months of training as only core duties of the profession are reserved. In **Ireland** reserved activities do not cover so called minor electrical works which present no danger to the general public.

In this context, it should be mentioned that a group of Member States, namely **Austria, Croatia, Germany, Iceland, Luxemburg, Liechtenstein, Slovakia and Switzerland**, operate a system whereby in order to be self-employed a professional has to obtain a mastercraft certification (“*Meisterbrief*”) or engage a responsible manager of the business with this qualification.¹⁹ In **Switzerland** one responsible master is required for every 20 employees of a company. While in Switzerland all employees must in addition also be qualified electricians or electrical apprentices, it seems that in the other Member States, e.g. **Germany, Luxembourg, Croatia and Austria** the remaining staff do not have to meet any qualification requirements.

The situation is comparable in **Finland** and **Denmark**, where there is no need for employees to hold professional qualifications, but the work must be approved by a qualified electrician in the context of a company's quality management system. In **Slovenia** either the owner or the manager of the company must be qualified. In the **Czech Republic**, there are a number of reserved activities concerning particular devices for which professional competence is required from all persons working with these devices in order to secure individual aspects of the public interest like the protection of workers.

In contrast to this, in **Spain**, it is sufficient to submit a declaration to the competent administration in order to start a professional activity and the administration checks at a later stage whether the requirements are fulfilled. In **Spain**, like in **Italy**, no professional qualification is required for repairing so called minor electrical works, but only for the installation works.

In **Ireland** certain activities, concerning mainly domestic works, may only be carried out by so called “registered electrical contractors”. Unregistered persons carrying out such work could be subject to fines up to EUR 15.000 or up to 3 years of imprisonment. For other activities an issue of compliance of the works has to be delivered by such registered

¹⁸ Note that in Croatia this applies only if a person conducts a craft business and it is not obligatory if a person establishes a limited company.

¹⁹ In almost all these Member States there are also other ways to get the necessary licence, e.g. through university education.

electrical contractors. For minor works (generally qualified as those which do not impose a significant risk on the consumer) there are no restrictions or requirements.

Further analyses on the proportionality and impact on access to the profession, mobility and the economic effects of these measures would seem appropriate. In particular the effects on safety and consumer protection of the different regulatory models would benefit from contrasting the own with other Member States' approaches. Safety records and the reporting of incidences may be an instructive way to begin comparing the operation of such different systems.

3.3. Professional qualification required

Required training hours, type of education required, mandatory traineeship, type of exam, possible annual mandatory training required

Most Member States indicated that they regulate by reserving specific activities to certain professionals. Only **Cyprus** has indicated a protection of the title without any reserve of activities. **Iceland** informed about a reserve of activities and a protection of the title.

A number of Member States have communicated a *licensing system based on qualifications*²⁰, namely **Austria, Croatia, France, Germany** and **Portugal**.

Only **Austria** reported to apply a system of *mandatory certification*²¹, but only in a few cases (e.g. installation of fire protection systems).

On the other hand, a number of Member States have reported about the existence of *voluntary certification systems*. In **the Netherlands**, there are many private branch organisations in the electrician sector and in order to be able to join one of them, an education program has to be followed (e.g. technical engineering or electronics vocational secondary education). Apart from the basic education, there is a variety of specialised education programmes offered as vocational post-secondary training. Such education covers theoretical and practical training, e.g. four days a week the student will gain practical experience by working as a trainee electrician and one day he will spend at school focusing on theoretical aspects of the training.

The situation is comparable in **the United Kingdom** where there are strong trade associations and professional bodies which have developed a system of voluntary self-regulation, which is widely supported by voluntary company certification. Given this voluntary system a regulatory control by the government has never been a priority.

Austria also reports the existence of several voluntary certification systems which are only used by about 5% of companies seeking competitive differentiation as a marketing advantage. The already very demanding access conditions for the profession are given as the reason for this very limited use of the voluntary certification. In **Finland**, voluntary certification exists and has been taken up by 10% of professionals in electrical design.

According to **Germany**, the mastercraft certificate requirement corresponds to a certification system, but involves less cost, is more transparent and prevents information asymmetry. The mastercraft certificate can be considered a voluntary certification system for those crafts which do not require this qualification anymore, but where it is still

²⁰ This categorisation corresponds to the according to the previous classification in the database, which would now correspond to the category "reserves of activities".

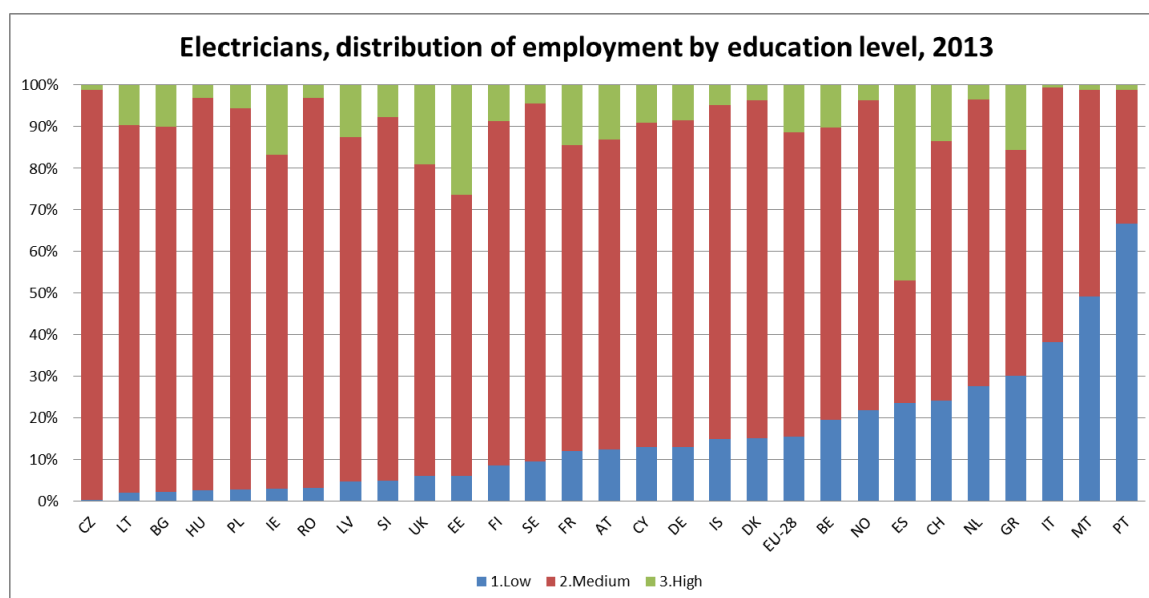
²¹ Idem.

possible to obtain this degree (see for more information on the German reform point 4.3.).²² In addition, private voluntary certification systems also exist in **Germany** where they mainly serve to indicate a specialisation.

Liechtenstein reports that electricians can voluntarily certify themselves according to ISO standards.

a) Level of education required

The distribution of electrical equipment installers and repairers provides interesting information on their level of education (on the basis of the international ISCED classification). For the EU on average, 16% of electricians had a lower secondary education ("Low"), 73% an upper secondary or post-secondary non-tertiary education ("medium") and 11% had a level of education equivalent to tertiary education ("High"). In each case the education can either be general or vocational. The proportion of electricians with low education is particularly high in **Portugal, Malta, Italy** and **Greece**, all above 30%. In **Spain**, 47% of electricians are reported to have a high education level, in **Estonia** 26% and in the **UK** 19%.



LU, HR, SK: no data available

Source: Eurostat, Labour Force Survey, ISCO category 741: Electrical equipment installers and repairers

Concerning the level of education required and based on the information received by Member States, 4 have indicated that they require an attestation of competence issued by the competent authority on the basis of either a training course or general primary or secondary education (see article 11 (a) of Directive 2005/36): **Cyprus, Czech Republic, Estonia** (for electricity services supervisor, who is the person in charge of electrical work, in control of electrical installation and technical inspector of electrical installations) and **Slovakia**.

The following Member States ask for a certificate attesting the successful completion of a secondary course either general in character or technical or professional in character (see article 11(b) of Directive 2005/36): **Croatia, Cyprus; Finland, France, Greece, Hungary, Ireland, Poland** as well as **Iceland, Norway and Switzerland** (for electrician).

²² Same applies to Croatia.

Post-secondary education (see Article 11c of Directive 2005/36) is required in **Austria, Denmark and Germany** as well as in **Norway and Switzerland** (for master certificate).

b) Comparison between different systems

Only four Member States, i.e. **Croatia, Germany**²³, **Malta** and **Poland** have reported to organise *state exams* for the profession.

The *length of required education* varies from a minimum 400 days for training at accredited schools in **Slovakia** to 2 years (**France**), 3 years (**Denmark, Germany, Poland**), 4 years (**Switzerland** for electrician) 5 years (**Italy**: there is a combination of vocational training and mandatory traineeship with several possibilities of combining) to 8 years in **Switzerland** (in order to gain a master diploma).

Training in **Austria, Croatia, Germany**²⁴, **Iceland, Luxemburg** and **Switzerland** to obtain a "*Meisterbrief*" (mastercraft certificate) includes other training aspects to equip the professional in establishing and operating a business. In particular, a professional having obtained this qualification has automatically the necessary authorisation to train young people in what is called the "*dual education system*". The principle of this system is that a young person concludes a contract with a professional who agrees to teach him all the practical aspects of the profession during a certain number of days a week, whereas the theoretical training is being given at a professional school which is attended in parallel (see for more details below the parts concerning the justification and the proportionality of measures). The length and costs of such training seem to vary among those Member States.

In addition, **Croatia** specifically mentions that education/training is not obligatory and is not prescribed in terms of form and duration, so entities which provide this service on the market freely create their own programmes regarding education/training for conducting of Master Craftsman Exam and offer them on the market. However, persons wanting to sit this exam have to fulfil the requirement regarding relevant work experience in particular profession of 2 to 3 years (depending on the prior education).

Mandatory traineeship is required in **Austria, Poland** and **Switzerland**.

In **France**, every self-employed person in the craft sector has to do a so called "*stage de préparation à l'installation*" which is not linked to professional qualifications, but normally a 5-day-course intended to give the professional the necessary information about setting-up and running a business.

c) Obligatory continuous training

In **Slovakia** licences for all categories of professional in the electrician sector are valid for 5 years upon which the professional must complete an upgrade training in order to get his licence renewed. The system is similar in **Ireland** where qualified certifiers must complete a course/assessment every five years to demonstrate that they are suitably

²³ In principle the "*Meister*" exam has to be passed in order to exercise an independent activity but there are exceptions for journeymen ("*Gesellen*") with several years of experience in a leading position and for engineers with an academic diploma. It is interesting to note, that among new businesses, only 65 % are owned or supervised by a "*Meister*".

²⁴ Those training requirements only apply to the owner or technical supervisor of a business. The remaining staff does not have to meet any qualifications and hence can be untrained.

competent to operate in line with current standards. Other Member States have not reported about such obligatory training.

In this context, it was interesting to note that during the discussions, **the Netherlands** considered that private certification schemes were more appropriate to demonstrate qualification because competence is checked regularly every one to four years.

Austria explained that in its system there is a legal obligation for licensed crafts to keep their knowledge up to date and that in case of serious violation, the license can be taken away.

3.4. Additional requirements to perform the profession of electrician

Additional requirements need to be examined and analysed in order to be able to assess whether there is any duplication of rules and whether the cumulative effect of different rules which a professional has to comply with is going beyond what is necessary in order to achieve the objective pursued. The following additional requirements have been reported:

a) Legal form restriction

Legal form restrictions have only been communicated by Denmark if the person starts a company (but no further details available). In addition, it follows from the report transmitted by **Slovakia** that only natural persons can establish and operate a crafts business or a regulated trade.

During the discussions it emerged that in **Cyprus** and **Malta** too, licences are only given to physical persons.

b) Insurance

Member States asking for professional indemnity insurance are **France, Poland** and **Portugal**.

c) Mandatory registration in professional bodies

Registration with a professional body is required in **Denmark, France** and **Poland**.

In **Austria, Germany** and **Luxemburg**, registration with a professional body is not linked to the regulation of the specific profession as any professional setting up a business has to become member of the professional body (e.g. in **Germany** the craft professions needs to be registered in the “*Handwerksrolle*” which is the register of all crafts; in **Austria** there is an obligatory membership with the “*Wirtschaftskammer*”, in **Luxemburg** with the “*Chambre des métiers*” and in **Croatia** with the Croatian Trades and Craft Chamber), pay a membership fee and adhere to professional standards.

A similar obligation of membership with a professional chamber existed in **Slovenia** but, following a political decision, this membership in the chamber of crafts is no longer mandatory.

There is indeed a debate to be had around the proper powers of professional bodies that having the best expertise in their area, are without doubt a force for the good in championing standards of professionalism and knowledge. Authorities must be careful of the necessity of any burdens placed on individuals and the market. In cases where there is a requirement for both registration and membership in a professional order, Member States should analyse carefully the balance between benefits and burdens brought by this measure.

d) Territorial restrictions

During the discussion, the **United Kingdom** pointed out regional differences of the (voluntary) system, however it is not entirely clear whether this amounts in practice to territorial restrictions for individual services providers.

e) Licence with limited validity

Licences issued in **Slovakia** and **Latvia** are valid for a limited period of time (e.g. 5 years for **Slovakia**) While in **Poland** a certificate is only valid for 5 years unless the professional can demonstrate continuous work as electrician and if there has been no change in technology, there is an obligation for the professional in **Ireland** to follow a course every 5 years in order to get his licence renewed.

Denmark had a temporal limitation of an authorisation to 5 years after a reform in 2001, but this limitation was later removed by law.

f) Other additional restrictions

Italy informed about the existence of restrictions concerning the exercise of joint practices because of incompatibilities with other professional activities which could lead to conflicts of interest.

3.5. Rules applying in Member States not regulating the profession

A number of Member States have indicated that they do not regulate the profession. However it has been observed in particular during the discussions between Member States that some kind of rules and regulation, not necessarily linked to the access to the profession or established by private voluntary bodies do apply in those Member States as well.

Portugal indicates that the profession of electrician is not regulated. However, differentiations made between professionals according to different tasks and depending on the qualifications could lead to the conclusion that there is a regulation for the profession as of a certain power voltage and as of certain level of complexity of the tasks (e.g. setting up of new installations). For example, in each category (design, execution and operation) activities are reserved to professionals depending whether they are an electrical engineer (5 years of study), a technical engineer with electrical engineering speciality (3 years of study) or electricians who have appropriate qualification and have at least 2 years of experience. The situation is comparable to the one in **Spain** where repair work is not regulated, while installation work is regulated. In addition **Spain** equally distinguishes between works carried out on high or on low voltage.

Bulgaria equally notified that access to the profession was not regulated, but that the education was regulated and that the profession of “electrician” as well as the one of

“electrical fitter” was included in the list of professions subject to vocational education and training. In practice this means that even though there is no legally binding professional qualification requirement, mandatory professional competences are de facto required for the exercise of the profession and that they shall be binding on all training institutions eligible to organize training with examination as its completion and issuance of documents of professional qualifications acquired. All the vocational schools are subject to control by the competent authorities. Persons trained in the specific professions have the possibility to acquire a Professional Qualification certificate after passing a practical and theoretical exam.

In **the Netherlands** and **the United Kingdom** the profession has never been regulated but there are regulations concerning the exercise of tasks performed by an electrician. But those rules are not related to the professional (see below examples given when comparing different ways of ensuring the protection of an objective of general interest.) The voluntary, not legally imposed definition, for instance of those competent to undertake electrical work in **the United Kingdom** provides that *“a person can demonstrate competence to perform electrical work if they have successfully completed an assessed training course, run by an accredited training organisation, which included the type of work being considered. As part of that course, this person should have demonstrated an ability to understand electrical theory and put this into practice. A successfully complete, industry-recognised electrical apprenticeship, with post-apprenticeship experience, is a good way of demonstration competence for general electrical work. More specialised work, such as maintenance of high-voltage switchgear or control system modification is almost certainly likely to require additional training and experience”*.²⁵

During the discussion, the **United Kingdom** explained that there is no mandatory education requirement but most professionals adhere to voluntary certification schemes offered by private operators who assess the competence whereby 3 to 4 years of apprenticeship are needed in order to reach the highest level. A special regime applies to domestic electrical work of major dimensions, for which compliance with technical standards has to be certified. Certification can be given either by local official authorities (fee from 100 to 400 £) or by registered professionals with a certified qualification ("competent person scheme"). In order to remain registered, electricians must have a sample of their work verified every 1-3 years (frequency decreasing with time). This could be considered as a sort of partial reserve of activity.

Voluntary private certification systems have also been established by the industry in **the Netherlands**.

In **Estonia**, even if the profession of electrician is not regulated, there still needs to be one person of the company which is responsible for the work carried out and who has the supervision and the specific qualifications.

Members States who do not regulate the profession should still assess the actual situation concerning access to and exercise of the profession. While voluntary certification and private certification schemes may reflect the functioning of a particular market, a multiplication of private schemes or an unclear situation as to what is actually needed in practical terms to exercise the profession could be equally burdensome for professionals wishing to access the profession as state regulation of the profession. For mobility

²⁵ Definition provided by the Health and Safety Executive.

purposes such schemes may prove to be barriers similar in effect to regulatory measures. In this respect, those Member States are invited to verify whether information made available via official websites of public authorities correctly reflect the legal as well as the practical situation of requirements concerning the access of a profession and where possible to assess the market impact on professionals.

4. RESULTS OF TRANSPARENCY / SCREENING EXERCISE BY MEMBER STATES

Article 59 of the revised Directive foresees that “*Member States shall examine whether requirements under their legal system restricting the access to a profession or its pursuit to the holders of a specific professional qualification, including the use of professional titles and the professional activities allowed under such title, referred to in this Article as ‘requirements’ are compatible with the following principles:*

- (a) requirements must be neither directly nor indirectly discriminatory on the basis of nationality or residence;*
- (b) requirements must be justified by overriding reasons of general interest;*
- (c) requirements must be suitable for securing the attainment of the objective pursued and must not go beyond what is necessary to attain that objective.”*

4.1. Non discrimination

Member States should ensure that professionals can access regulated professions without being a national or without having to reside in their national territory. This means that it should be examined whether the requirements under the national legal system are directly or indirectly discriminatory on the basis of nationality or residence.

Those Member States which communicated information to the Commission on this aspect confirmed that there is no discrimination based on nationality or residence.

4.2. Justification

Most Member States consider that the profession of electrician needs to be regulated due to the nature of activity with potential dangers for the professionals themselves, their customers and the public in general.

When asked to identify the specific overriding specific reason(s) of general interest, which justify(ies) the regulatory framework, Member States have reported the following reasons:

- *Protection of consumers and/or of recipients of services* has been identified by **Austria, Croatia, Czech Republic, Denmark, France, Germany, Luxemburg, Malta, Poland, Slovakia, Slovenia, Spain, Norway**
- *Safety of professional/worker (protection of persons who carry out installation)* has been brought forward by **Austria, Denmark, Germany, Slovakia**
- *Public safety* is a reason for regulating the profession in **Austria, Finland, Germany, Ireland, Slovenia, Spain, Switzerland**
- *Ensuring the functioning of the infrastructure of a modern industrial company which is not possible without electricity:* **Austria**

- *Public health: Austria, Czech Republic, France, Germany, Norway, Slovenia, Spain, Switzerland*
- *Public security: Austria, Czech Republic, Norway*
- *Protection of creditors: France*
- *Securing skilled labour, training, innovation and performance capacity, securing performance and training capacity of the crafts sector: Germany*
- *Prevent injury to persons or property resulting from inadequate or improper electrical installations: Sweden*
- *Security of trade activities and in particular of loyal transactions: Luxemburg*

When referring to general interest objectives around “public policy”, “public security” and “public health”, Member States are reminded of the concepts of EU law which stem directly from Article 52 TFEU. These concepts have been consistently interpreted by the ECJ. Such objectives must only be understood as a response to a serious threat to the fundamental interests of society or the survival of the people. Given this, alongside the differences in the way the profession is regulated (fully or with regard to some activities only or with regard to the title) as well as qualification requirements from one Member State to another, more precision is needed in connecting risks with general interests and final policy solutions.

Main arguments used to justify regulation in order to provide for *consumer protection*

In order to justify its regulation **Croatia** makes reference to the fact that the profession of electrician is a complex profession which can have an impact on the security of people.

For **Denmark** it is important that the technical responsible person have an education in order to know how to carry out electrical installations correctly and to direct other persons in the company on carrying out such installations. **Germany** argues that proving ability before taking up entrepreneurial activities by means of regulation in certain professional activities can effectively counter hazards caused by human actions, particularly to consumers’ bodies and lives. **France** equally insists on the knowledge of the safety rules.

Austria explains that the teaching of the respective professional rules as well as applicable consumer and commercial law forms an essential part of the professional training and guarantees relatively high level of consumer protection if compared at international level. The Austrian Trade Act specifies the consistent level of specialist knowledge and the degree of specialist competence an electrical engineer is to have to be permitted to independently and responsibly perform the profession. Only proof of successful completion of the qualification examination entitles the respective electrical engineer to register a trade to operate an electronics company independently.

Main arguments used to justify regulation in order to maintain and improve *public safety/public security/ public health and the need to protect professionals and workers from accidents*

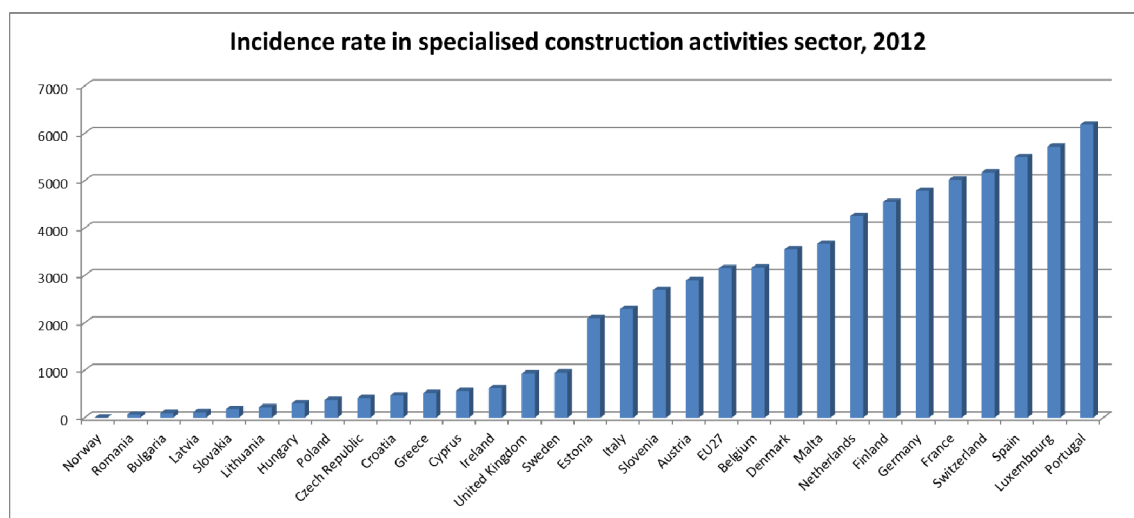
Member States bringing forward one of those reasons of general interest aim to protect the public, professionals or workers from accidents due to the particular activity of

working with electricity. In this respect, **Norway** for instance qualifies electricity as dangerous product and **Finland** explains that the need to ensure that electrical installations do not cause a fire hazard or danger to life or property of users or to the installation environment remains as acute today and becomes even more prominent with the greater complexity of installations and installations spanning larger areas.

Ireland reported that before the introduction of the regulation in 2006 an average of 5 people per year were killed (between 2000 and 2006) as a result of fires due to electrical wiring installations they have not provided updated figures since implementing their reforms.

However, no Member State has provided more detailed information or data demonstrating a causal effect between regulating the profession of electrician and the number of accidents.

The incidence rate in specialised construction activities sector from 2012 does not really allow the conclusion that a regulated or stronger regulated profession would prevent or reduce the number of (serious) accidents. On the other hand, it has to be said that for some countries showing very low incident rates, the data available was not sufficient to be significant.



Note: The incidence rate of serious, non-fatal accidents at work is the number of persons involved in accidents at work with more than 3 days' absence per 100,000 persons in employment.

Source: Eurostat, European Statistics on Accidents at Work

Austria, Denmark²⁶, France and Germany have specifically mentioned that one of the reasons for regulating the profession of electrician is the protection of those persons and workers in charge of installing or maintaining electrical works.

According to **Austria**, in the area of electrical engineering, performance of work requires a high degree of diligence, reliability and specialist knowledge to avoid danger to the corporal integrity of people. Compliance with the statutory and technical provisions is considered very important to counter dangers regarding burns, poisoning and consequential diseases. **Austria** explains that only a trained electrical engineer has these capabilities due to the knowledge that he has acquired during his training and completion of the qualification examination how to render electrical engineering services in ways

²⁶ **Denmark** transmitted a master of science thesis by Minna Kinnunen, « *Electrical accident hazards in the Nordic Countries* », Tampere University of Technology, May 2013.

that prevent the occurrence of danger to himself and to the person performing the work, as well as to the client or third parties. After every service rendered in connection with electronic facilities, measurements must be performed to check the protective measures. To be able to perform the measurements and interpret the results, the completion of the professional training prescribed by law is mandatory.

While **Switzerland** advances the view that requiring professional qualifications is the usual way to protect public interests like the protection of the user and the safety of the building, **Denmark** argues that in the electrical field there is a direct connection between the competence of the professionals and the risk of electrical accidents/injuries and electrical fires. **Norway** believes that inspection of electrical installations cannot replace the qualifications requirements.

For **France**, the activity of an electrician requires training because of the special working conditions, i.e. to prevent that the use of potentially dangerous professional tools (hammers, wall chasers, angle grinders) and toxic materials (cement and cement dust), the working at height and the handling of heavy equipment affect the health of workers.

Germany argues that preventive control on business activity by the state with the aim of avoiding an emergence of concrete threats to important legal assets is a preferable instrument compared to repressive approaches.

A different approach has been taken by **the Netherlands** where the objective of protecting public safety is achieved through several laws setting out minimum requirements which have to be met when constructing a building in the Netherlands and by requiring that the contractee make sure that the contractor (in this context the electrician) is able to carry out his work in a safe and healthy way and in accordance with the law.

Similarly, in **the United Kingdom** legislation imposes duties principally on employers, the self-employed and on employees, including certain classes of trainees, in order to prevent death or injury from electricity in work activities. For example, one regulation states that “*no person shall be engaged in any work activity where technical knowledge or experience is necessary to prevent danger or, where appropriate, injury, unless he possesses such knowledge or experience, or is under such degree of supervision as may be appropriate having regard of the nature of the work*”.

Main arguments used for general public interest of *securing skilled labour, training, innovation and performance capacity, securing performance and training capacity of the crafts sector*

Vocational training following the so called “dual education” system consists in principle of a contract concluded between a professional and the student who goes to vocational school, but spends most of the time in the company in order to get his practical training. This dual vocational training is often praised to be what is really needed and required by companies, the labor market and for the integration of young people into professional life. In addition, this education is said to improve professional development opportunities, to allow for higher incomes and to give a high degree of protection against unemployment as well as better opportunities for reintegration into the labour market in the event of unemployment.

In **Germany**, craft is considered to make an important contribution to the low 7% of youth unemployment through offering training contracts for young people in within the

dual education system for professions. The practical training content is mainly taught by a master craftsman acting as the training employer. Businesses which do not have a master craftsman can still offer training places under certain conditions, but the general assumption is that without a master craftsman there is much less dual education as other professionals lack the aptitude to take care of a young apprentice. In this context, **Germany** explains that 60% of those trained by the crafts end up working in other sectors of the economy, making the craft sector one of the most important factors for the training and the education of in particular young people without higher secondary school diplomas.

Similar arguments have been brought forward by **Austria** where currently 10% of their apprentices in trade work and learn the electrician profession in a system of dual education. Austria considers that this helps to avoid high unemployment numbers among young people.

Ireland has a different but comparable system where an apprentice may commence at the age of 16 years of age as an apprentice with a suitable employer who can offer him a apprenticeship. The training then lasts 4 years with different phases combining on and off the job training. On successful completion of the apprenticeship the apprentice is awarded a National Craft Certificate issued by a statutory awarding body that has both national and international recognition.

It is interesting to note that **the Netherlands** indicate in their report, that the shortage of young people is a general problem for technical professions.

4.3. Proportionality

It is important that Member States analyse the proportionality of their measures with reference to their suitability to securing the objectives of general public interest they pursue. In this respect it should be examined whether measures do not go beyond what is necessary in order to attain these objectives or could be achieved with other means having a less restrictive impact.

It has to be noted that only the minority of Member States report on their analysis concerning the proportionality of their measures. Questions on this subject are often not answered or answers are too general and do not present any tangible facts and figures. Member States are invited to reflect further upon their different approaches and to meaningfully assess the proportionality of their restrictive measures.

As a thought exercise for those professions with safety risks, it could be illuminating to interrogate the impact of regulation on supply and demand and the potential for unintended consequences whereby some consumers are priced out of the market and, in this way, exacerbating those safety risks that the regulation is intended to guard against.

Norway indicates that they assessed whether the use of more frequent monitoring of work related to electrical installations could replace some of the qualification requirements but concluded that this was not enough to ensure public safety and health and the security of service recipient.

Austria informs about a continuous evaluation of access to the profession with regard to steadily developing further legislation, standards and regulations on the one hand and the changing employment situation on the other. On the one hand, that leads to bringing the access conditions up to date through adapting the intrinsic requirements of the qualifying

examination in order to respond to current developments, and on the other hand to easing access by recognition of alternative forms of training, such as studying at universities, colleges, abroad, etc. In addition, the creation of new professional groups with easier responsibilities allow for free access to particular activities that do not encompass the entire trade and for which the protection level may be lower, with the particular exception of activities relevant to protection against death and injuries.

A proportionality assessment was carried out by **Slovenia** in 2013 with the result that seven craft activities which might have serious risks to health and safety, all of them in the construction sector and including the activity of electrical installation, have been identified of needing particular regulation, i.e. a permit before performing craft activities in Slovenia for the first time. Moreover, for a number of craft activities the requirements for minimal vocational education and training were lowered from 4 years secondary school to 3 years vocational school or from 3 years vocational school to suitable national vocational qualification.

Sweden explains that an authorisation as electrical contractor is only mandatory when performing electrical installation work relating to the execution, alteration or repair of electrical installation and installations of devices, where such a voltage, current or frequency can be dangerous to persons or property.

Germany underlines the importance of maintaining its current system which it considers proportionate. The current access restrictions can realize several of the public general interest objectives the legislator wants to protect, which leads to a lower burden than for instance if consumer protection issues would be accounted for by certification schemes. This position is explained by reference to the 2004 reform on crafts. **Germany** considers that this reform had a negative impact on the dual education system as a lot of the “deregulated” professions for which a master degree is not obligatory anymore²⁷ do not train young people or not to the same extent as professions which still require a master degree: a relative decline in the training capacity in the license-free area and a significant decline in advanced training was observed as well as the fact that less companies offered training opportunities (see table provided by Germany).

Table: Percentage of trainees in crafts and in the economy as a whole in Germany

| | 2008 | 2009 | 2010 | 2011 |
|-----------------|-------|-------|-------|-------|
| Annex A crafts | 12.7% | 12.2% | 11.5% | 10.8% |
| Annex B1 crafts | 4.1% | 3.8 % | 3.4 % | 3.1 % |
| Overall economy | 5.8 % | 5.7 % | 5.4 % | 5.1 % |

Source: University of Göttingen (ifh)

²⁷ Today the requirement still applies to 41 professions. Professions are being organised in so called annex A professions, requiring a mastercraft certificate, and annex B professions for which such a certificate still exists, but is not obligatory anymore. Annex A includes the following professions in the construction sector: mason and concreter, builder of stoves and air heating systems, carpenter, roofer, road builder, thermal and noise insulation fitter, well builder, stonemason and sculptor, stuccoist or painter and varnisher. Annex B includes, for the construction sector, steel fixer, floorer, asphalter (excluding road construction) or above-ground cable layer (excluding connection works).

The decline in apprentices in some sectors of craftsmanship may however also be due to structural changes and not only to the (de)regulation.

Another argument brought forward by **Germany** to demonstrate the need for keeping the current system are the entry-exit figures of companies where the number of business start-ups increased, but the businesses created have been mainly micro-businesses which only remained on the market for a relatively short period of time and barely employed any staff. For one sector the proportion of businesses remaining on the market five years after having been set up was reported at 70% in those crafts requiring certification as against 46% in the crafts where certification is not required.

Concerning *public safety* issues, Germany considers that lower skill or alternative concepts of hazard prevention, e.g. of certifications, accident prevention and occupational safety regulations, hygiene rules, provisions for consumer protection or civil liability regimes, are not sufficient. Concerning the objectives of *securing skilled labour, training, innovation and performance capacity*, **Germany** explains the importance of the preservation of the performance level and performance capabilities of the craft sector with its mainly micro-business structures focusing on maintaining the quality of service of crafts, the economic stability of the structures and a well-educated younger generation.

Is regulation applied in a systematic and consistent manner?

Other examples for comparable professions where a similar approach has been adopted to address a similar risk

In general, Member States do not reply to this question.

Austria reports that for comparable professions with potential hazards, the public interest is protected by comparable qualification and access requirements, mainly the master craftsperson's or qualifying examination. The legal basis for this is the Trade Act (*Gewerbeordnung*). In **France** comparable trades are gas and sanitary technicians, motor vehicle technicians, metal technicians, heating and ventilation technicians, mechatronics, cooling and air conditioning technicians, surface technicians. The objective of general interest is pursued in the same way for other activities including baker, caterer, mason, painter and electrician. In **Belgium** the same kind of rules apply for all activities regulated within the building sector.

Germany reports that the regulation of professions in general is subject to strict control with national constitutional law including a comprehensive review of proportionality. In this respect, a decisive question is whether the objective pursued by professional regulation can in fact be systematically pursued because otherwise it would be considered as not being proportionate. In a landmark decision in 2011, the Federal Administrative Court considered the new regulation in the craft sector following the 2003 reform to be proportionate.

Examination of less alternative means

Austria informed that the basic prerequisite for the execution of the regulated trade of electrical engineering is the proof of technical qualification, which is usually the completion of the qualification examination (*Befähigungsprüfung*). The examination is an individual measure under trade law that must be met as the sole legal prerequisite to be able to operate an electrical engineering company in Austria independently and under

one's own responsibility (self-employed). Alternative means have not been considered as there are currently enough options in the trade regulations to combine authorisation scopes of different trades with each other, since tradesmen can also render services from other crafts under certain prerequisites. These are, for example, "*combined crafts*". If fully qualified for a trade that is part of a combined trade, professionals who are authorised to execute the respective trade shall also have the right to render the services of the other trade that the combined trade is made up. In addition, there is so called "*simple work*" of regulated trades, the proper performance of which does not require the otherwise prescribed proof of qualification. Simple activities shall in any case not be the core activities typical for a trade which require special knowledge, skills and experience for performing the craft²⁸. Austrian commercial law also permits tradespeople to perform a number of activities that are usually the object of other trades under certain prerequisites and in the scope of their right to perform a trade. These "other rights of tradesmen" are due equally to all tradespeople (producers, dealers or service providers).

Poland informs that due to the changes implemented in 2014, the review of the mechanisms can only be done in a few years.

Cumulative effect of rules?

Whilst the majority of Member States regulates this profession in one way or another, almost all Member States seem to have rules on the execution of works in the construction sector, including electrical work. However, no or very little explanations are given as to the cumulative effect of such rules.

In particular in the construction sector there are many rules in all Member States concerning the way works have to be executed. Member States are invited to consider those rules together with the rules concerning the access to a profession.

5. CONCLUSION BY MEMBER STATES ON THEIR SCREENING EXERCISE

The following Member States have communicated their intention to maintain the current system either because it has been considered satisfactory or because it has been recently changed: **Austria, Denmark, Germany, Spain and Norway**.

Other Member States have announced that the current system is under review. This concerns for example **Poland** that seeks to improve current system by simplifying guidance and removing burdensome aspects.

In **Portugal** new legislation contains slight changes concerning insurance obligations and regular training obligations for electricians²⁹.

Cyprus, where there are currently four categories of electricians (senior electrical technician, electrical installation contractor, electrical equipment and appliances maintainer, wireman) considers establishing a new category, namely the Electrical inspector of the Low Voltage Electrical Installations. This category might require additional professional qualifications such as specialized training experience and skills. Consultations with stakeholders are still at the beginning. **Cyprus** justifies the creation of

²⁸ See as comparison the German rules where simple activities/tasks are those which can be acquired within 3 months.

²⁹ Law n.º 14/2015, 16 of February

an additional category by the fact that this profession has always existed, but that it used to be pursued by the electricity provider. It has now been decided to separate the inspection activities from the production.

In **Estonia** the legislation pertaining to construction is being updated. Special focus is given to address concerns in the sector regarding the perceived low quality of the workforce, which might lead to the introduction of a mandatory certification system (i.e. holding a professional certificate at a certain level issued by the Qualifications Authority).

In **Belgium** a reform took place in 2005-2006 reviewing all regulated activities in the building sector. For the 10 activities that are regulated in this sector, the required level of theoretical and practical training was raised due to the many technical changes in these building activities over the last decades. Reform might however take place in the near future as due to constitutional changes, competencies for this regulation have shifted from the federal level to the regional level.

Member States are invited to consider whether, given the changing environment of professional activities including in the construction sector, a very stringent system of accessing a profession is the best way of regulating or whether access requirements should be reviewed while at the same time considering alternative means of ensuring quality control via obligatory training and checks on professional qualifications during the exercise of the activities of a professional.

In the past years, a number of Member States have undertaken reforms facilitating the access to either the electrician profession or to professions in the construction sector more generally.

a) Facilitating access by reducing number of regulated professions

In **Germany** a reform of the Crafts Code took place in 2003. While prior to this, more than 90 professions required a mastercraft certificate, this number has now been reduced to 41 professions.³⁰ The 41 crafts which are still essentially subject to certification were selected on the grounds that they harbour a significant potential danger to the life and health of third parties. In addition the so called owner's principle has been abolished so that only a manager of technical operations needs to be qualified while the owner or employees do not necessarily need to be qualified. The aim of the reform was to make the legislation relating to crafts more sustainable and to align it with the conditions in place at European level. **Germany** reports that, unfortunately, the expectations of the German government in 2003 with regard to the revised Crafts Code have not been met in full over the past 10 years (see above on German arguments concerning proportionality and need to maintain current system).

More recently, in 2013, **Slovenia** undertook a reform where the requirement for a craft licence was reduced from 64 to 25 craft activities which remain regulated. Among those, 7 craft activities which might present a serious risk to public health and safety have been identified, among them electrical installation. For these activities service providers have to obtain in addition a permit before starting to provide services for the first time in **Slovenia**. No concrete results or data of this reform have been presented, but **Slovenia** informs that the guild for electrical activities considers that there is a great devaluation of

³⁰ In **Croatia**, for instance, 30 out of 62 craft activities require a mastercraft certification.

the craft training system and therefore recommends to other Member States not to take deregulation too lightly if they want to maintain a strong, quality professional service of electrical activities. However there is no information whether the Slovenian authorities have an intention to review or to maintain the current system as reformed in 2013.

b) Reducing administrative barriers

In **Spain** the system was changed in 2010: where previously a service provider had to provide all the relevant documentation to the administration before starting to work, it now requires the professional to present a declaration where he declares to fulfil the necessary requirements concerning training, professional liability, etc. Documents must only be presented upon request from the administration. Some regions apply a regular ex post control of the respect of the relevant rules and legislation, whereas in other regions this control is more limited. **Spain** suggests in its report that the control should be systematic in all regions in order to combat black economy and ensure public interest are safeguarded.

c) Opening up of profession through partial access

A reform which took place in **Denmark** in 2014 has eased the access to professions as authorisations are not linked with authorisation of a company anymore, which means that a professional gets his approval indefinitely and does not need to apply for approval as technical responsible person after each change of a job as it was the case before the first reform to the law in 2001. In addition, qualification requirements have been reconsidered and individuals can apply for approval as technically responsible person in the entire electrical field or in one of the partial authorisation fields, such as electrical installations in homes (“sub-authorisations”). New education programmes targeted at the new partial authorisation fields will be established. This means that a person can get a one-year education and can then be approved as a technically responsible person in one of the new partial authorisation fields. The traditional education as an electrical contractor takes two years. In future, authorisations will be issued only to companies which are required to have a quality management system as well as a technically responsible person with necessary professional competences, who has been approved by The Danish Safety Authority Technology. The new law envisages that more companies will be able to provide the consumers with an overall solution of services which may cause fewer shifts of work, less waste and possibilities of lower consumer prices, which would increase productivity.

Partial access seems to be granted in **Austria** as well where new professional groups have been created with easier responsibilities allowing for free access to particular activities that do not encompass the entire trade and for which the protection level may be lower.

d) Merging analogical regulated activities

In the **Czech Republic** several amendments were undertaken since the 1990’s in order to gradually merge analogical regulated activities under the same legal act aiming at removing duplicities and lack of interconnection and to ensure that entrepreneurs have adequate expertise. At the same time, certain activities moved from professional or permitted trades to vocational trades, simplifying access to the profession. For self-employed persons, the inclusion of their business into vocational trades allows in addition to use the deduction of higher percentage of lump sum costs for tax purposes than within other types of business, which should, inter alia, promote the development of

small businesses in these sectors where the number of qualified expert is decreasing over time.

While during the implementation of the Services Directive, **Luxemburg** considered that its rules were non-discriminatory, justified and proportional, a new law adopted in 2011 has slightly liberalised the profession of electrician (no specific information available on reform).

e) Regulating the profession for reasons of public health and consumer/worker protection

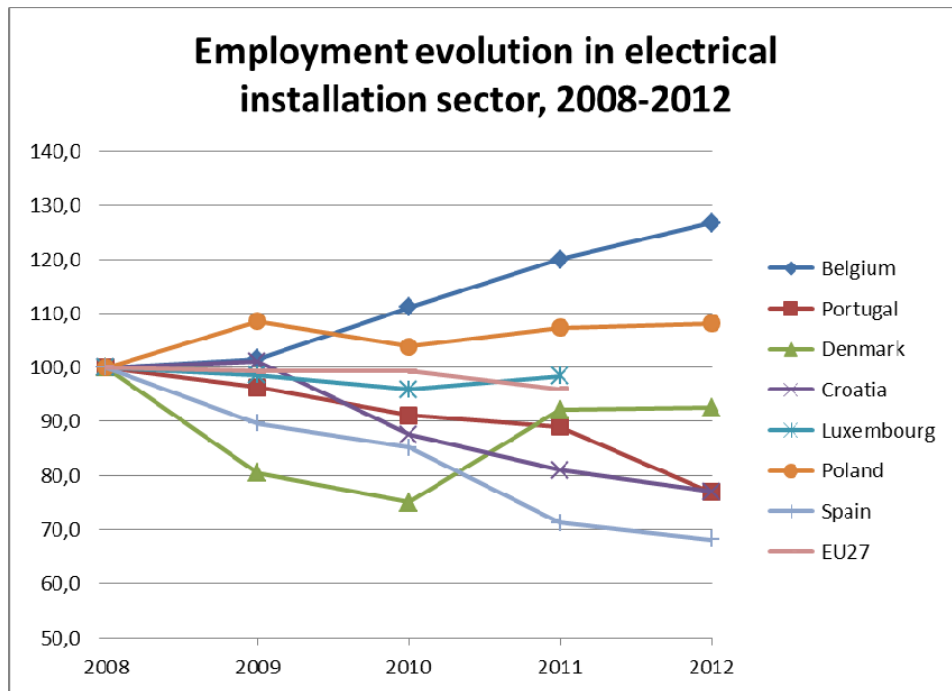
The profession has only been regulated in **Ireland** since 2006 mainly because of high number of serious accidents following direct contact with electricity of following fire associated with a suspected electrical cause. While a voluntary system has been operating since 2004, with the reform two Electrical Safety Supervisory Bodies have been appointed, any registered electrical contractor in Ireland must be registered with either of those bodies. The mandate of these two bodies expires end of 2015 and a review of the system is on-going (a consultation paper has been published in June 2014) which should lead to a new operating scheme as of January 2016.

In this respect, it is interesting to note that **Ireland** did not regulate so called minor electrical works which generally do not impose a significant risk on the consumer as it considered that restricting such works would achieve very limited public safety benefits whilst imposing a disproportionate cost on consumers.

During the discussions, **Sweden** informed that the current legislation is being considered unsatisfactory as the consumer does not have the possibility to verify whether the person performing activities in his house has the necessary qualifications because the electrical technician only needs to work under the supervision of the authorized electrical contractor, without there being any rules about the training requirement of such an electrical technician. In 2013 a commission of inquiry was appointed to propose amendments to the legislation. The inquiry's report was submitted to the government in January 2015 and has been sent out for consultation to stakeholders until mid-May 2015. The new legislation can enter into force in January 2017 at the earliest. The inquiry proposed to e.g. maintain the electrical contractor as a regulated profession, to replace supervision of electrical contractors by the obligation to have a self-monitoring programme for companies providing electrical installations and to introduce a register of companies providing electrical installations and authorised electrical contractors.

Annex I – Employment

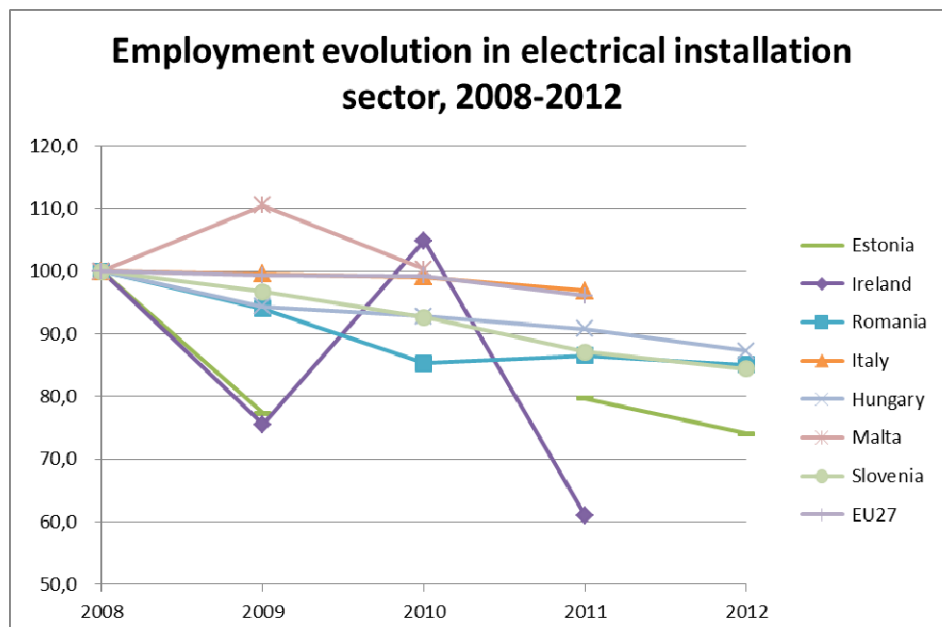
Group 1: Belgium, Portugal, Denmark, Croatia, Luxembourg, Poland, Spain, Switzerland



Switzerland: no data available

Source: Eurostat, Structural Business Statistics

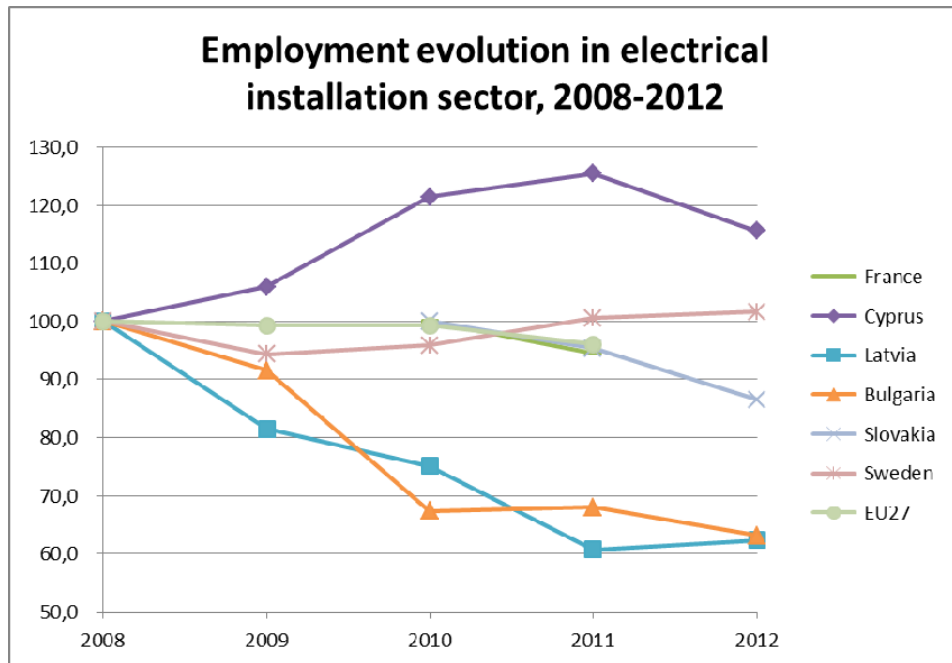
Group 2: Estonia, Ireland, Romania, Italy, Hungary, Malta, Slovenia, Liechtenstein



Liechtenstein: data not available

Source: Eurostat, Structural Business Statistics

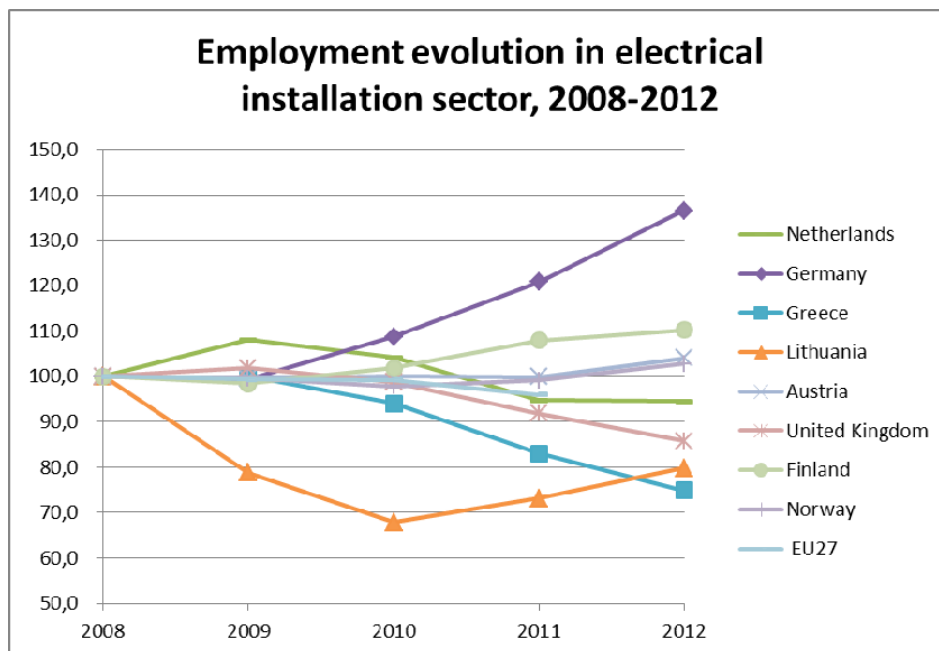
Group 3: France, Cyprus, Latvia, Bulgaria, Slovakia, Sweden, Czech Republic, Iceland



Czech Republic, Iceland: no data available

Source: Eurostat, Structural Business Statistics

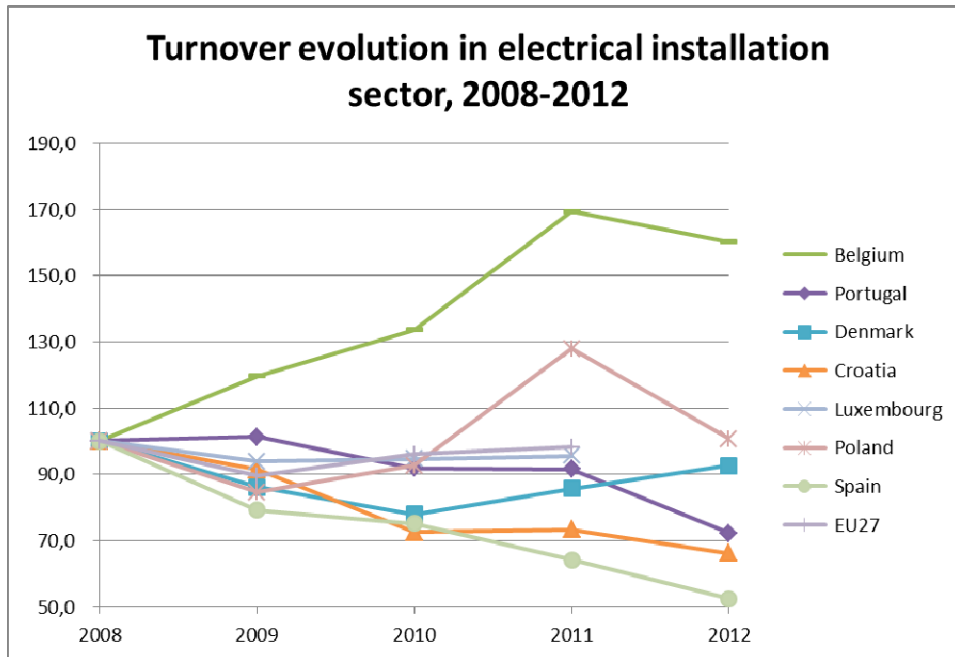
Group 4: Netherlands, Germany, Greece, Lithuania, Austria, United Kingdom, Finland, Norway



Source: Eurostat, Structural Business Statistics

Annex II - Turnover

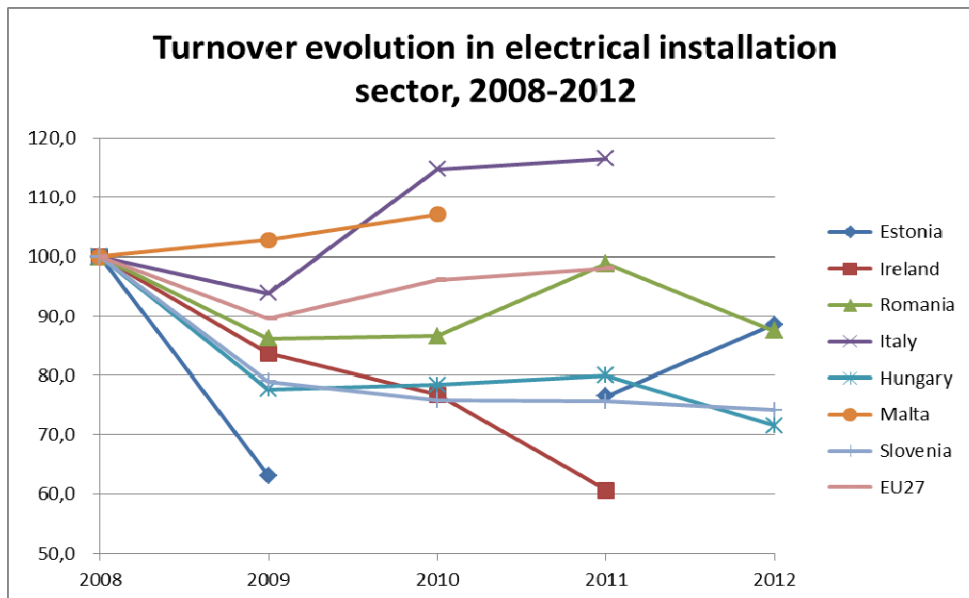
Group 1: Belgium, Portugal, Denmark, Croatia, Luxembourg, Poland, Spain, Switzerland



Switzerland: no data available

Source: Eurostat, Structural Business Statistics

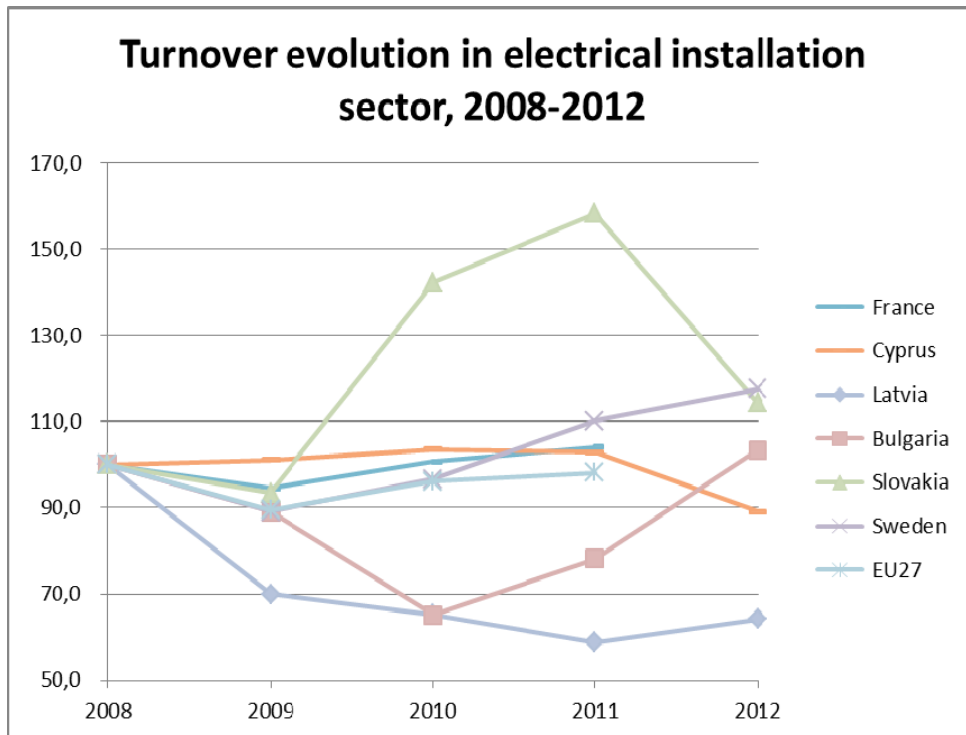
Group 2: Estonia, Ireland, Romania, Italy, Hungary, Malta, Slovenia, Liechtenstein



Liechtenstein: data not available

Source: Eurostat, Structural Business Statistics

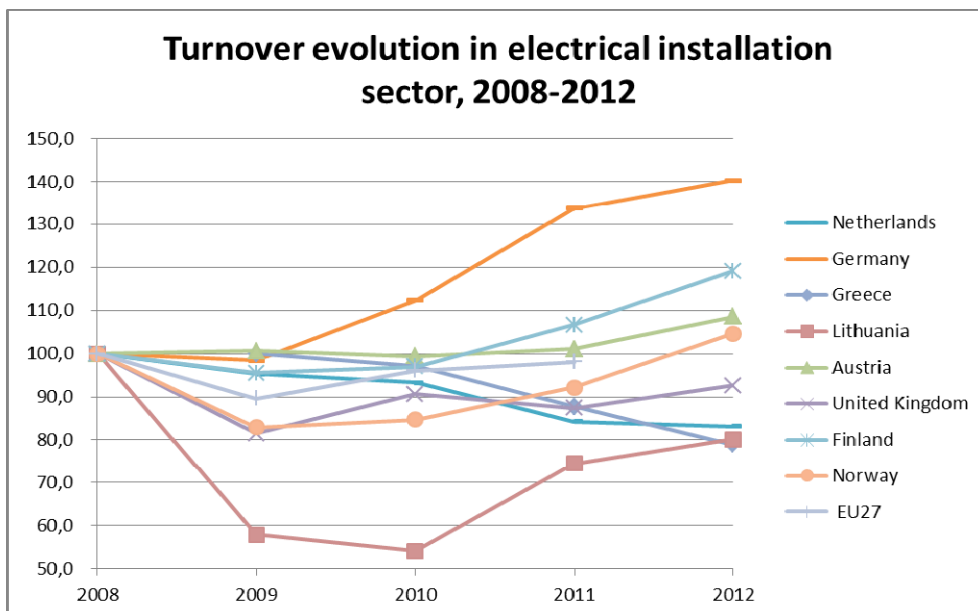
Group 3: France, Cyprus, Latvia, Bulgaria, Slovakia, Sweden, Czech Republic, Iceland



Czech Republic, Iceland: no data available

Source: Eurostat, Structural Business Statistics

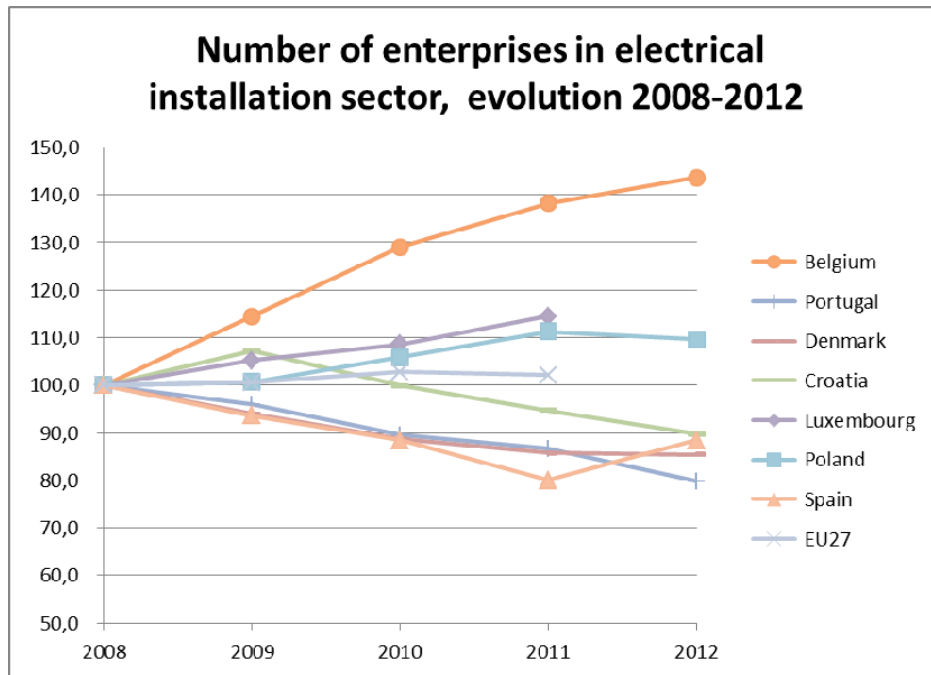
Group 4: Netherlands, Germany, Greece, Lithuania, Austria, United Kingdom, Finland, Norway



Source: Eurostat, Structural Business Statistics

Annex III - Number of enterprises

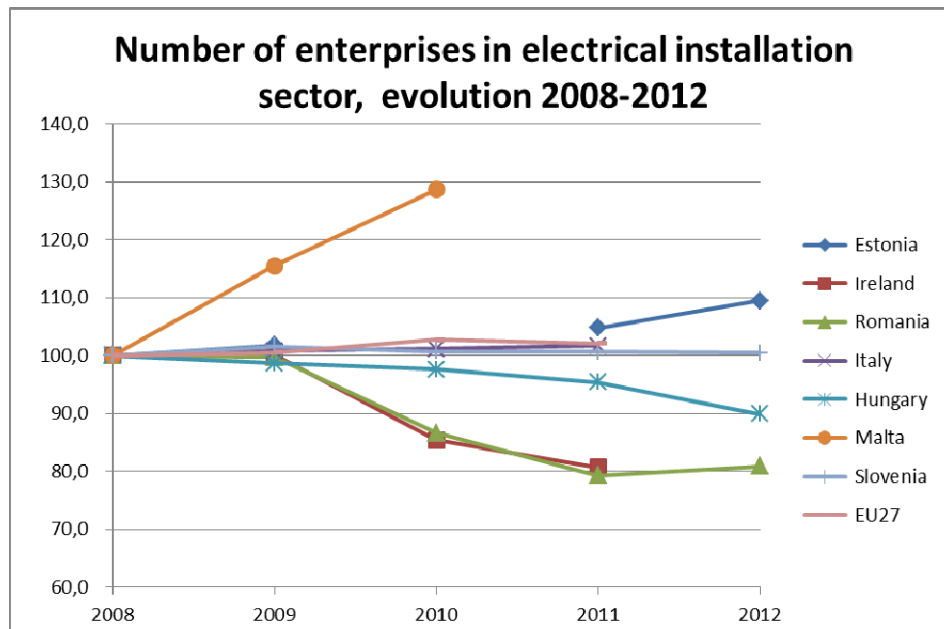
Group 1: Belgium, Portugal, Denmark, Croatia, Luxembourg, Poland, Spain, Switzerland



Switzerland: no data available

Source: Eurostat, Structural Business Statistics

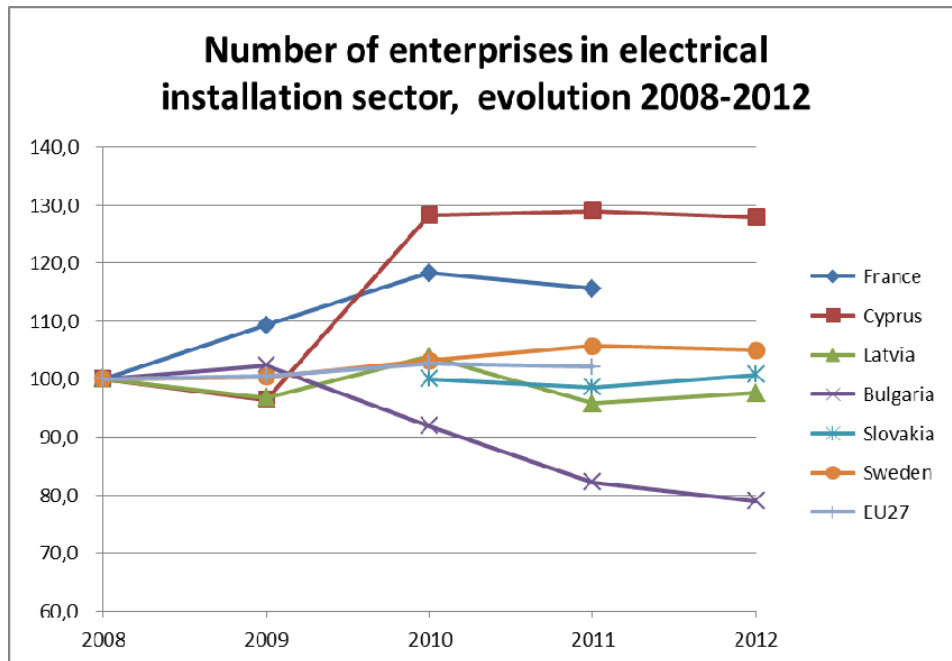
Group 2: Estonia, Ireland, Romania, Italy, Hungary, Malta, Slovenia, Liechtenstein



Liechtenstein: data not available

Source: Eurostat, Structural Business Statistics

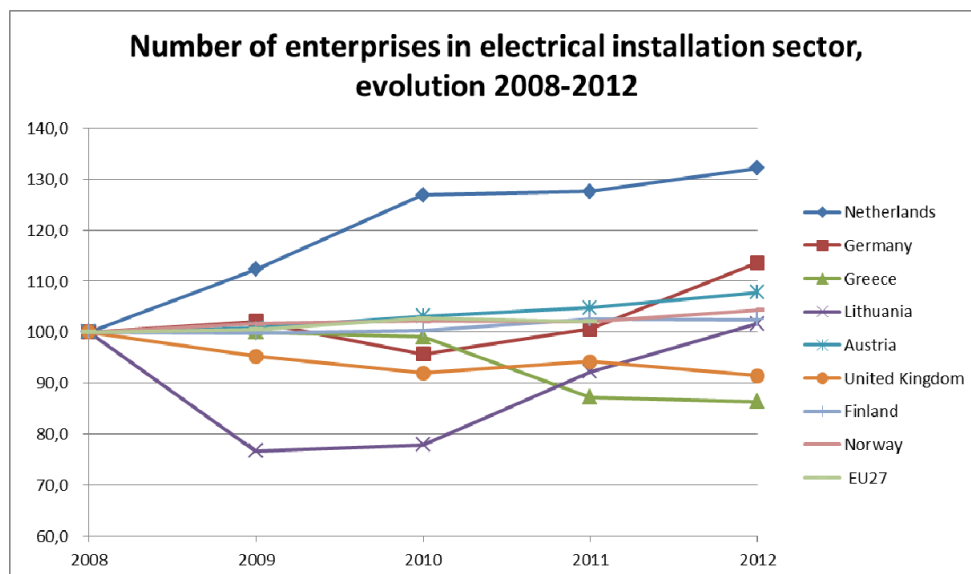
Group 3: France, Cyprus, Latvia, Bulgaria, Slovakia, Sweden, Czech Republic, Iceland



Czech Republic, Iceland: no data available

Source: Eurostat, Structural Business Statistics

Group 4: Netherlands, Germany, Greece, Lithuania, Austria, United Kingdom, Finland, Norway



Source: Eurostat, Structural Business Statistics