REFIT Platform Opinion

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REFIT Platform Opinion on the submission by a citizen on Plugs and Sockets

The REFIT Platform has considered the submission by a citizen suggesting that the Commission introduces rules for a standard electrical plug for the whole EU, replacing the wide range of plugs and sockets currently necessary.

The REFIT Platform does not recommend harmonising the plugs and socket-outlet systems in Europe, due to (i) the strong social and economic impact on the citizens without evident benefits in terms of safety and (ii) the fact that the EU and Member States may currently have other legislative and investment priorities.

Instead, the Stakeholder group recommends that Member States and the European Commission allocate significant resources to market surveillance and to increase their coordination efforts, so as to ensure that the Single Market is preserved and strengthened to the benefit of both consumers and responsible manufacturers.

Furthermore, the Stakeholder group advises to launch information campaigns to increase consumer awareness about the risks posed by unsafe and non-compliant products and how to avoid them.

Two members of the Government group further recommend that the Commission investigates whether harmonisation standards within the existing system are possible, for example by stimulating the process via private standardisation. One Member State also suggests that the European Commission investigates whether it is possible and desirable to place wall sockets under the scope of the Low Voltage Directive.

Detailed Opinion

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1 Submission XII.24.a by a citizen (LtL 736)

Good evening! I'm XXX, an Italian citizen, and I've just moved to the UK. One of the first things I noticed here was the presence of one and only of plugs and sockets for everything, which I think it helps a lot in terms of convenience, but above all security. Indeed, in Italy, which is one of the central states of the EU, we constantly come across loads of different types of plugs, and, since there is no European common law about electric standards, in our houses we still have the old socket types, which merchants keep selling, and a kind of new universal socket, which can accept the principal European plug types, but is objectively not very safe and unstable. Is it possible to make this issue present to someone important in the EU in order to adopt one and only plug standard instead in the whole EU, like the IEC 60906-1, which is the safest one existing at the moment? I know that this issue could be consider as something not very important, but I strongly believe that this situation pushes people to think that domestic safety is not that important and to use loads of adapters, and I also think that it could be a undeniable chance to strengthen the now dangerously weak bonds between the European nations and recover from the state of neglect we are all suffering, at least from one point of view. Thank you for your availability! I'm really accounting on your support!

2 Policy context

Normal mains plugs and socket outlets for domestic use are excluded from the Low Voltage Directive (LVD) 2014/35/EU. This Directive is aligned to the New Legislative Framework policy and is applicable from 20 April 2016 replacing Directive 2006/95/EC. There is no harmonised household plug system throughout Europe, as they fall under national legislation.

The safety of mains plugs and socket outlets for domestic use is governed by the General Product Safety Directive (GPSD), 2001/95/EC, as far as other specific EU legislation does not apply.

Concerning travel adaptors: A simple travel adapter that only consists of a plug from one national system to a socket outlet of another national system is also not covered by the LVD, but falls under the GPSD scope.

Multiple and intelligent travel adaptors, however, (having one or more socket outlets that via an electro-mechanical switch can be paired with different plugs, or that contains electronic components such as an overvoltage protector, thermal device, LED-lamp or similar) fall however under the LVD.

Guidelines on the application of the LVD directive are provided via the LVD Europa website: http://ec.europa.eu/DocsRoom/documents/20341. Specifically, paragraph 57 clarifies on this and Annex VII provides practical examples.

The LVD will be subject to an evaluation exercise during 2018. The possibility to enlarge its scope, and therefore the possibility to take into account this specific aspect, will be therefore

3 Opinion of the REFIT Platform

3.1 Considerations of the REFIT Platform Stakeholder group

Current situation in Europe

At European Union level, there is no specific European legislation defining types, dimensions or requirements and tests for plug and socket-outlet systems.

The safety of plugs and socket outlets for domestic use is covered by the General Product Safety Directive (GPSD) - Directive 2001/95/EC (see Policy context of this draft opinion). There is a proposal for a Regulation on Consumer Product Safety, which is currently under discussion and will repeal the GPSD once approved.

Note: The above proposal for a Regulation on Consumer Product Safety does not have an impact on the topic covered by the draft opinion (i.e. differences in plug and socket-outlet systems in Europe), as the proposed Regulation will not define specific plug and socket-outlet systems at European level. Therefore, **this draft opinion does not enter in the exclusion criteria** established by the REFIT Platform.

Plugs and socket-outlets are parts of systems defined at national level in the corresponding national installation/wiring legislation and in national standards. National systems are defined in terms of types and dimensions of plugs and socket-outlets which are allowed in the country, safety requirements and tests, etc.

Current systems are heavily dependent on existing infrastructure, which cannot be changed without a necessary transitional period of coexistence of systems of more than 75 years, and may have significant implications in terms of safety (use of adaptor during the transitional period), investment (for citizens and companies) and environmental impact (waste).

In terms of compatibility, there are two main types of plugs and socket-outlet systems in Europe, largely defining two geographical areas:

• System based on round-pin plugs and compatible socket-outlets



Source: IEC (http://www.iec.ch/worldplugs/map.htm#) - see plugs/sockets type C, E, F.

One of the plugs more widely used within this system is the '*Europlug*' (see picture below). It is a non-earthed plug for 2,5 A 250 V a.c., and covered by the European standard¹ EN 50075.



This plug is widely used across Europe, and in more than 135 countries in the world².

The 'Europlug' was designed to be compatible³ with a range of sockets widely used in most countries in Europe (except in UK⁴, Ireland, Malta and Cyprus).

For 16 A applications, the most common plug in Europe is the CEE 7/7 plug, which is compatible with most socket-outlets used in continental Europe:

- the one⁵ used in countries such as Germany, Austria, the Netherlands or in Spain (CEE 7/3 socket and CEE 7/4 plug), and
- the one used in countries such as France, Belgium, Poland or Slovakia (CEE 7/5 socket and CEE 7/6 plug).

¹ CENELEC standard EN 50075:1990 - Flat non-rewirable two-pole plugs, 2,5 A 250 V a.c., with cord, for the connection of class II-equipment for household and similar purposes.

² See list of countries: <u>http://www.iec.ch/worldplugs/typeC.htm</u>

³ Physical compatibility does not imply that the use of the plug is accepted by the relevant national legislation.

⁴ However, most modern UK dedicated shaver sockets also accept Europlugs for applications requiring less than 200 mA. UK consumer protection legislation does not permit the supply of appliances fitted with 'Europlugs'.

⁵ See complete list of countries: <u>http://www.iec.ch/worldplugs/typeF.htm</u>



At global level, there is also a lack of harmonization of the plugs used in different countries. In addition to the European plugs described above, other plugs and socket-outlet systems can be added to the list, e.g.

- the US Plug, based on two flat parallel pins, which is also used in 55 countries in the world,
- the plug used in Australia/New Zealand and Argentina, used in 20 countries (most of them in Oceania), based on two flat non parallel pins.

Taking into account this lack of harmonisation of plugs and sockets-outlet systems in the world, the International Electrotechnical Commission (IEC) has several international standards⁸:

⁶ See list of countries: <u>http://www.iec.ch/worldplugs/typeC.htm</u>

⁷ BS 1363 – '13 A plugs, socket-outlets, adaptors and connection units'

⁸ Source: International Electrotechnical Commission Website -

 $[\]underline{https://webstore.iec.ch/searchform\&q=Plugs\%20 and\%20 socket-outlets\%20 for\%20 household}$

- The series of standards IEC 60884⁹ *Plugs and socket-outlets for household and similar purposes.* This series specifies safety and testing requirements, but does not define specific plug and socket types and dimensions;
- The international standard IEC 60906-1:2009 *IEC System of plugs and socketoutlets for household and similar purposes* – *Part 1: Plugs and socket-outlets* **16** A **250** V a.c. The aim of this International Standard is to provide a reference in case countries want to replace their old systems. It has been adopted only by South Africa (identical adoption) and Brazil (non-identical adoption). This plug and socket-outlet system looks similar, to the Swiss system, but it is not identical.
- The US type of plug and socket-outlet system has influenced the development of an alternative international system, covered by the IEC 60906-2:2011 *IEC system of plugs and socket-outlets for household and similar purposes Part 2: Plugs and socket-outlets 15 A 125 V a.c. and 20 A 125 V a.c.*

Impact for European citizens

Situation in each Member State

As regards the situation in the EU Member States, each of the different plug and socket-outlet systems can be considered safe, in the meaning given by the General Product Safety Directive. This directive defines

"safe product" shall mean any product which, <u>under normal or reasonably</u> <u>foreseeable conditions of use including duration</u> and, where applicable, putting into service, installation and maintenance requirements, does not present any risk or only the minimum risks compatible with the product's use, considered to be acceptable and consistent with a high level of protection for the safety and health of persons.

In all EU countries, products and appliances having a plug are required to comply with the corresponding dimension and safety requirements, as defined in the national rules.

Travelling to a country having a different plug and socket-outlet system

When EU citizens travel into a country having another plug and socket-outlet system, it is foreseeable that they carry with them small household goods (e.g. toothbrush, hair dryer) or portable computers (laptops) or phones. In this case, they may need to use an adaptor plug.

While this may cause some inconvenience to the citizen travelling abroad, this situation does not imply safety issues, provided the right adaptors are used.

Change of residence into a country having a different plug and socket-outlet system

In case a citizen changes residence, he/she may carry some household appliances that require

⁹ IEC 60884 – *Plugs and socket-outlets for household and similar purposes* includes *Part 1: General requirements*, and several part 2 standards for particular requirements for fused plugs, socket-outlets, adaptors and other applications

a change of plug to the one used in the new country. Adaptor plugs should not be used on a long-term basis, as this may increase the risk of accidents.

Counterfeit and non-compliant plugs, socket outlets and adaptors in Europe

The 'RAPEX System', or Rapid Alert System for dangerous non-food products, enables a quick exchange of information between European countries and the European Commission about dangerous non-food products posing a risk to the health and safety of consumers. It has been established in the context of the General Product Safety Directive and has a strong relation with Regulation (EU) 765/2008 on *requirements for accreditation and market surveillance relating to the marketing of products*.

Current European legislation and standards contain safety requirements to allow the identification of unsafe and non-compliant products for the protection of consumers and citizens. However, these requirements in themselves do not offer sufficient guarantee to avoid that unsafe and counterfeit products are placed in the market, without a stronger Market Surveillance mechanism. This situation does not only affect citizens, but may cause compliant manufacturers to suffer from unfair competition of non-compliant manufacturers and importers.

In the last 10 years, a total of 18 909 RAPEX notifications¹⁰ identifying unsafe products have been issued by EU Member States, of which some 1000 cases involved unsafe and non-compliant plugs and/or adaptors.

These identified cases of non-compliant products are a clear evidence of the need to improve the market surveillance mechanisms, to support the enforcement of the New Legislative Framework legislation (safety regulations and directives), the General Product Safety Directive (or the future Regulation on Consumer Product Safety, once approved), or other relevant Union legislation covering the safety of products.

Currently the European Commission is working on a new proposal for actions that should keep non-compliant products from the EU market. In COMM (2015) 550: "Upgrading the Single Market: more opportunities for people and business" The European Commission announced that it will "launch a comprehensive set of actions to further enhance efforts to keep non-compliant products from the EU market by strengthening market surveillance and providing the right incentives to economic operators."

Options to be considered in the context of this opinion

Irrespective of whether a European legislative proposal to harmonise plug and socket-outlet systems would be introduced, it is proposed to introduce measures at European level to reinforce the activities performed by Member States in market surveillance, in order to ensure that only compliant and safe products are put into the European market.

¹⁰ Information regarding the notifications from EU Member States in the Rapid Alert System for non-food products: <u>https://ec.europa.eu/consumers/consumers_safety/safety_products/rapex/alerts/?event=main.search#searchResul</u> <u>ts</u>

OPTION A: No European legislative proposal to harmonise plug and socket-outlet systems

This option would imply not to change the national systems through a legislative proposal. This would be supported by the fact that all existing systems are considered safe.

OPTION B: Harmonise the plug and socket-outlet systems based on a new system

This option would imply the harmonisation of plug and socket outlet systems in Europe, by:

- introducing changes in national wiring legislations with important transitional periods (above 75 years),
- implementing an important investment plan to support both citizens and firms to replace the old socket-outlets (and the corresponding plugs of the appliances being used), estimated to 100 billion Euro cost for society,
- introducing investments in the production lines of manufacturers of plugs, socketoutlets and adaptors,
- Generating a huge environmental impact, producing some 700 000 tons of electrical waste.

Proposal

The Stakeholder group, noting the above analysis, does not recommend to introduce a legislative proposal to harmonise the plugs and socket-outlet systems in Europe, due to:

- the strong social and economic impact on the citizens without evident benefits in terms of safety, even in the case of heavy investments by the EU and Member States to ensure a faster transition,
- The fact that the EU and Member States may currently have other legislative and investment priorities.

Noting the number of non-compliant low-quality products found in the market as shown in the RAPEX notifications, and considering the increasing complexity of enforcing EU legislation, the Stakeholder group recommends Member States and the European Commission to allocate significant resources to market surveillance and to increase their coordination efforts, so as to ensure that the *acquis communautaire* of the European Single Market is preserved and strengthened to the benefit of both consumers and responsible manufacturers. Reinforced market surveillance will safeguard the use of compliant and safe products in the European market.

Furthermore, the Stakeholder group advises to **launch information campaigns** to increase consumer awareness about the risks posed by unsafe and non-compliant products and how to avoid them.

3.2 Considerations of the REFIT Platform Government group

16 Member States contributed to this Opinion. These Member States support the recommendations group which is not to harmonise the plugs and outlet systems in the EU via legislative instruments.

Two Member States make a further recommendation which is for the Commission to investigate whether harmonisation standards within the existing system are possible, for example by stimulating the process via private standardisation (The LVD AdCo group has for example already established a working group which has issued a proposal for harmonisation of the Schuko and French system and there are discussions in the responsible standardization bodies at CENELEC- and IEC-level.) These discussions should be coordinated with the responsible groups of the Member States (LVD and GPSD). One Member State also recommends that the European Commission investigates whether it is possible and desirable to place wall sockets under the scope of the LVD.

Individual contributions from Member States

Member State 1 supports the Stakeholder group's proposal not to harmonise the plugs and socket-outlet systems in Europe on due to the strong social and economic impact on the citizens without evident benefits in terms of safety. MS1 also shares the Stakeholder group's point of view about the importance of market surveillance. Safeguarding the use of compliant and safe products in the European market should be accomplished by means of reinforced market surveillance instead of introducing a legislative proposal to harmonise the plugs and socket-outlet systems in Europe.

Member State 2 supports the Stakeholder group's recommendation to not introduce a legislative proposal to harmonise the plugs and socket-outlet systems in Europe (Option A), taking into consideration the serious impact of Option B. Furthermore, MS2 notes the following:

- a) The conditions for making available on the market of plugs and socket-outlets in MS2, through a registration procedure, are laid down in the Ministerial Decision 529/2000.
- b) The above-mentioned national framework will be reviewed in 2017, as part of the OECD Toolbox III. The amendments will mainly consider the use of digital means for the registration of products, without affecting the making available on the market of only certain types of plugs and socket-outlets.
- c) Plugs and socket-outlets are explicitly excluded from the scope of the Joint Ministerial Decision $51157/\Delta$ TBN 1129/17.5.16 for the transposition of the LVD (Directive 2014/35/EU) into the MS2's Law.

Member State 3 supports the position of the Stakeholder group, that does not recommend to introduce a legislative proposal to harmonise the plugs and socket-outlet systems in Europe, due to (i)the strong social and economic impact on the citizens without evident benefits in terms of safety, even in the case of heavy investments by the EU and Member States to ensure a faster transition, and (ii) the fact that the EU and Member States may currently have other legislative and investment priorities

Member State 4 does not support the proposal made by the citizen.

Member State 5 supports the recommendations of the Stakeholder group.

Member State 6 does not apply any objections towards this Opinion.

Member State 7 agrees with the analysis and the recommendation of the Stakeholder group that it is not necessary to introduce a new legislative proposal to harmonise all plugs and socket-outlet systems in Europe. Due to the costs involved this would be a disproportionate and ineffective strategy to pursue.

MS7 would like to suggest two alternative proposals to strengthen and further harmonise the system without changing the total system of plugs and wall sockets in Europe and allowing for different systems of plugs and wall sockets to co-exist.

Currently there are different systems used in the EU (C, E, and F) for different national standards. Therefore a concrete improvement would be to further harmonise within the same system (e.g. to harmonise national standards within the Europlug system). MS7 recommends the European Commission to investigate whether further harmonisation of standards within the system is possible. And if so, to investigate if further harmonisation within the systems is achievable without legislative proposals, for example by stimulating the process of harmonisation via private standardisation.

With regard to wall sockets MS7 sees opportunities to improve their safety. Currently the safety of (all types of) wall sockets is covered by the General Product Safety Directive (GPSD). The market surveillance on wall sockets could be more effective when wall sockets would be covered by the Low Voltage Directive (LVD) instead of the GSPD because the LVD has other provisions on market surveillance that makes it easier for authorities to take measures. MS7 therefore recommends the European Commission to investigate whether it is possible and desirable to place wall sockets under the scope of the LVD.

Member State 8 partially supports this suggestion and agrees in principal with the considerations of the REFIT Platform Stakeholder group. However, MS8 likes to add an Option C (Partial harmonisation (concerning the safety requirements).

This option would imply the harmonisation of plugs and socket outlet systems in several groups in Europe: The Schuko and the French plugs and socket outlets system are fully compatible with some minimal rules. The English plug and sockets outlet system is not compatible with Schuko and the French system, but with an adapter (one for the using of the Schuko and French plug system in the countries of the English system and one for the English plug system using in the Schuko and French system countries) nearly a full harmonisation can be achieved. Some very special national plug systems (like the special two pole plug in Italy for 13 A) should only be used where absolutely necessary.

The LVD AdCo group has already established a working group, which has issued a proposal for harmonisation of the Schuko and French system based on the national standards of the European countries with the Schuko and the French system as a first step. In parallel, there are

discussions in the responsible standardization bodies at CENELEC- and IEC-level. These discussions should be coordinated with the responsible groups of the Member States (LVD and GPSD).

These activities show that an improvement of the current situation of the plugs and socket outlet systems in Europe is possible without the serious impacts described under Option B.

Member State 9 does not support the harmonisation of the plug and socket-outlet system in the EU due to the high costs for business and citizens as well as big environmental impact. It is advisable to address information campaigns in order to increase consumer awareness about the risks posed by unsafe and non-compliant products.

Member State 10 does not agree with the submission suggestion. Instead MS10 supports the Stakeholder group's summary and agrees with option A - given the different infrastructures in existence across the Union.

There is a widely differing technical infrastructure (e.g. between the UK, Ireland, Cyprus & Malta) and other Member States. To change would be technically challenging and would require retraining electricians and re-wiring homes. MS10 would expect this may lead to an increase in the number of fatalities and electric shock incidents over the transition period.

Member State 11 agrees with the statement that such harmonization will lead to a strong increase in expenses, which on the other hand should be viewed in comparison to the benefits of reduced expenses that will favour manufacturers (and ultimately end consumers) who fabricate products with multiple plugs, which are not free moving goods on the Common Market.

Harmonization of plugs and sockets will reduce the usage of adapters, which on a long-term perspective is expected to improve the overall safety level. Adapters are intended only for temporary use. However, given the vast mobility that is constantly taking place it is likely that other forms of usage may occur.

CENELEC could be assigned to outline a European Standard under which countries with similar plugs and sockets (e.g. Sweden and Germany or Poland and France) could unite. Lamp connectors are harmonized under LVD (transition period until 2019) which allows manufacturers to fabricate products within the same accession treaty as the entire European Single Market.

A crucial question is also whether the development towards an increased harmonization should be driven by the legislator or by the standardization bodies. Given the substantial amount of expenditure incurred in a harmonization process, The National Electrical Safety Board recommends the standardization bodies to be the driving force for future harmonization.

Overall, MS11 does not have any strong opinion on either for or against a harmonization of a unified European system for plugs and sockets. MS11 can distinguish advantages as well as disadvantages and have no specific opinion on the proposed decision.

Member State 12 supports the recommendation of the Stakeholder group.

Member State 13 considers that, as outlined in the document, this is not a safety concern. It is not feasible for MSs to change the infrastructure present so as to have harmonised sockets and plugs due to the very high negative economic impact this will have on society (all households would be expected to change all sockets and plugs being used) and on the government. Enforcement to ensure that only safe products are placed on the market and educational campaigns (as outlined in the document) are the best viable options. In the circumstances, MS13 is much more in favour of Option A, that is not to propose any European legislative proposal to harmonise plug and socket-outlet systems.

Member State 14:- has the following observations:

1a. MS14 **prefers at the moment the Option A:** "No European legislative proposal to harmonise plug and socket-outlet systems" to an Option C mentioned in point 1b). In connection with the Option A MS14 would like to emphasize the point 2 (see below).

1b. MS14 finds MS8's contribution **an interesting idea worth of discussing**. MS8 partially supports this Draft REFIT Platform Opinion and agrees in principle with the considerations of this suggestion. However, MS8 likes to add an Option C "Partial harmonisation" (concerning the safety requirements). This option would imply the harmonisation of plugs and socket outlet systems in several groups in Europe: French plug and socket (Type E), Schuko plug and socket (Type F) and the third group English plug and socket (Type G). There is one of the reasons for the Option C – it makes the internal EU market for electrical equipment with a socket easier and it strengthens the benefit of both consumers and responsible manufacturers.

2. MS14 can support the European Commission consideration of creation of suitable technical standards for adapters where possible technical solutions as well as needs and demands of travellers through the EU will be taken into account. The reason is in order that the adapters meet the principal elements of the safety objectives because – as is written on the page 6 of the opinion – "While this may cause some inconvenience to the citizen travelling abroad, this situation does not imply safety issues, **provided the right adaptors are used.**"

3. MS14 can support the view that "The market surveillance on wall sockets (and plugs) could be more effective when wall sockets (and plugs) **would be covered by the Low Voltage Directive (LVD)** instead of the GSPD because the LVD has other provisions on market surveillance that makes it easier for authorities to take measures." This could be another reason for the Option C.

4. MS14 can support the REFIT Platform recommendation that Member States and **the European Commission** allocate significant resources to market surveillance.

5. MS14 can support the launch of **information campaigns** to increase consumer awareness about the risks posed by unsafe and non-compliant products and how to avoid them.

MS14 can support the European Commission consideration of creation of suitable technical standards for adapters where possible technical solutions as well as needs and demands of travellers through the EU will be taken into account. The reason is in order that the adapters meet the principal elements of the safety objectives because – as is written on the page 6 of the opinion – "While this may cause some inconvenience to the citizen travelling abroad, this situation does not imply safety issues, provided the right adaptors are used."

MS14 can support MS7s view "The market surveillance on wall sockets (and plugs) could be more effective when wall sockets (and plugs) would be covered by the Low Voltage Directive (LVD) instead of the GSPD because the LVD has other provisions on market surveillance that makes it easier for authorities to take measures." This could be another reason for the Option C.

MS14 can support the REFIT Platform recommendation that Member States and the European Commission allocate significant resources to market surveillance.

MS14 can support the launch **of information campaigns** to increase consumer awareness about the risks posed by unsafe and non-compliant products and how to avoid them.

Member State 15 agrees with the proposal of the Stakeholder group not to recommend introducing a legislative proposal to harmonise the plugs and socket-outlet systems in Europe for the reasons which were also given by this group.

Member State 16 does not support the harmonisation of the plug and socket-outlet system in the EU via legislative instruments and agrees with the recommendations of the Stakeholder group. Implementation of the measure would lead to very high costs of compliance, major negative environmental impact while requiring a long transition period.