



# WHY THE EUROPEAN UNION SHOULD ADOPT E-LABELLING

## A MOBILE & WIRELESS FORUM WHITE PAPER

MWF
Mobile & Wireless Forum

## WHAT IS THE MWF?

We are an international association of companies with an interest in mobile and wireless communications including the evolution to 5G and the Internet of Things.

**www.mwfai.org**

labelling initiative

## WHAT IS THE E-LABELLING INITIATIVE?

A MWF initiative to promote the global adoption of e-labelling for electronic devices.

**www.elabellinginitiative.org**

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# Executive summary

Electronic labelling (e-labelling) is the digital depiction of logos, marks and labels that show that a device complies with the relevant national requirements for a given country.

The current system in Europe is based around the use of printed labels and information. It requires manufacturers to have the compliance and regulatory marks such as the CE mark printed on the product and packaging as well as for additional safety information to be provided on paper and with the product, either as separate statements or included within user manuals.

In contrast to the current system, electronic labelling (e-labelling) is a more environmentally responsible, consumer and accessibility-oriented approach with the required information readily available within the device itself and retrievable in a digital format from the packaging via a QR code.

Calculations show that in Europe, the equivalent of 48 million sheets of A4 paper could be removed every year from smartphone packaging alone, resulting in 480 million liters of water and over a 1000 tonnes of $CO_2$ emissions saved from the switch to e-labelling.

Currently, 21 countries around the world have replaced traditional labelling requirements with the option to use electronic labelling for mobile phones and other ICT equipment, such as tablets, wearables and laptops. These 21 countries represent around 60% of consumer electronic sales revenue worldwide, and include the EU's major trading partners: the United States, China, Japan, South Korea and Taiwan.

E-labelling has no real impact on market surveillance authorities (MSA's) with a 2018 study by VVA[1] finding that 50% of MSA's surveyed believing that it would actually lower their operational costs. It does benefit consumers though, as the information can be made more accessible and remain available throughout the lifetime of the device in contrast to the existing system where the information is lost or discarded and is inaccessible to some users with a disability.

Under the current scheme in Europe, the total costs of indicating compliance was calculated by VVA to be more than €797 million per year for a range of ICT products. The introduction of e-labelling would reduce this by approximately 15%, or about €119 million per year.

The paper also shows how it could be readily implemented in Europe, delivering broad benefits while ensuring that customs and MSA's maintain quick and easy access to the information that they need to undertake their tasks.

And finally, the paper outlines that the European Commission has already supported e-labelling in other sectors and that implementation does not need to be complex. Rather, it involves a simple amendment that allows for existing requirements to also be met through digital display.

March 2022


around the world have replaced traditional labelling requirements with the option to use electronic labelling for mobile phones and other ICT equipment, such as tablets, wearables and laptops.


of consumer electronic sales revenue worldwide is derived from markets allowing e-labelling

1 Cost-Benefits analysis on the introduction of an e-labelling scheme in Europe, Valdani Vicari & Associati (VVA), 2018)

# What is electronic labelling?

At its heart, electronic labelling (e-labelling) is the digital display of logos, marks and labelling information required to show that a device complies with the relevant national requirements for a given country. For globally produced products such as ICT equipment and in particular mobile and other wireless equipment, the existing physical labelling requirements can take up a reasonable amount of packaging surface – and in some cases also require certain logos and information to be printed or etched on the device itself.

For devices with an built-in screen, all labels can be digitally displayed in the software of the device and can be accessed via by the menu like any other information/application. For devices without a built-in screen but that can be connected to a screen, such as a streaming service dongle or set-top/tv box, the relevant information and logos can still be incorporated within the device and accessed via the devices menu once it is connected to a screen.

In this paper we will focus on devices with a built-in screen, although as indicated above there is virtually no difference to how e-labelling would work, other than the immediate availability of the screen.

## Current system of providing compliance information

The current system in Europe is based on physical, printed labels. It requires manufacturers to have the compliance and regulatory marks such as the CE mark printed or etched on the product and for additional safety information to be provided with the product – either as separate statements or included in User Manuals.

With the move away from user manuals for many electronic devices, this means that compliance information is typically provided separately in the package on paper or as a small booklet, depending on the product and the intended market.

*The water savings alone of allowing e-labelling would amount to 480 million litres every year in Europe.*

In reality though, this compliance information is rarely, if ever, read or understood by consumers,[2] and is not accessible to some users with disabilities.

2 *In a recent Position Paper by the European Association for the Co-ordination of Consumers Representation in Standardisation (ANEC) on the evaluation of the New Legislative Framework, they indicated: "Even though CE Marking is not intended as a mark for consumers, its appearance on many consumer products (or their packaging) is misleading to consumers. ANEC wants to see CE Marking relegated to the technical file of the product. CE Marking is a legal requirement. It is not a safety mark nor quality mark." ANEC-WP1-2020-G-056, Page 3, 11/2020*

In Europe, the CE mark must also be affixed or engraved on the device, making the cover of the device specific for the European market. However, logistically this presents problems for manufacturers that find that they have excess product in one market and wish to move it to other markets. If the product bears the CE mark, the back of the device must be removed, and new, unmarked, covers attached – and vice versa of course. This has both financial and environmental implications.

## A digital version: electronic labelling

In contrast to the current system, electronic labelling (e-labelling) is a more environmentally responsible approach with the required information readily available within the device itself. As can been seen below manufacturers already provide the information within the devices for many markets.

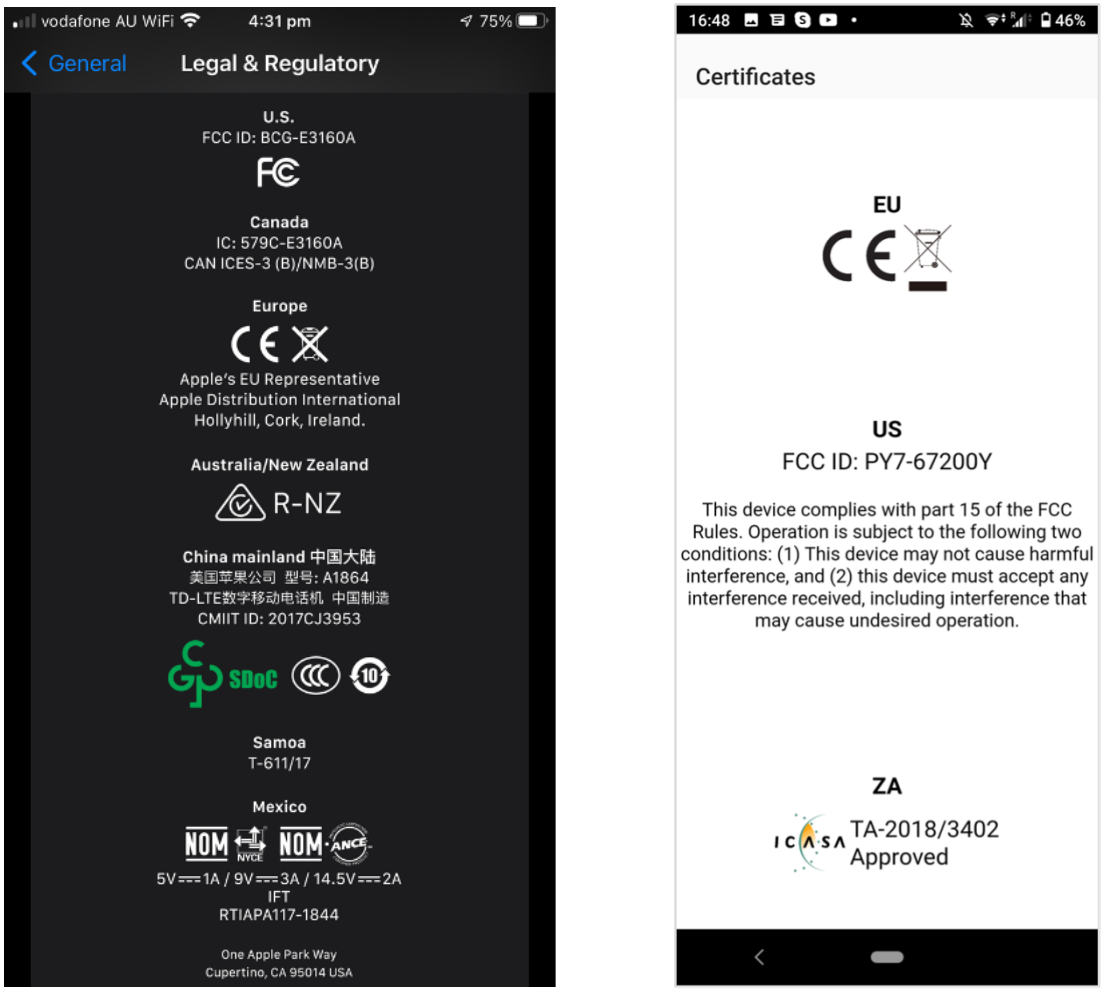


**Figure 1:** Examples of e-labels within smartphones

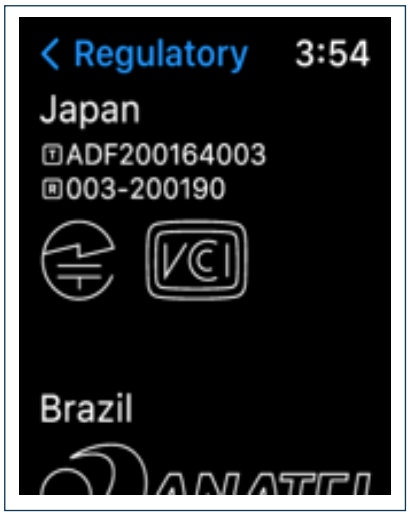


**Figure 2:** Example of an e-label within a smart watch

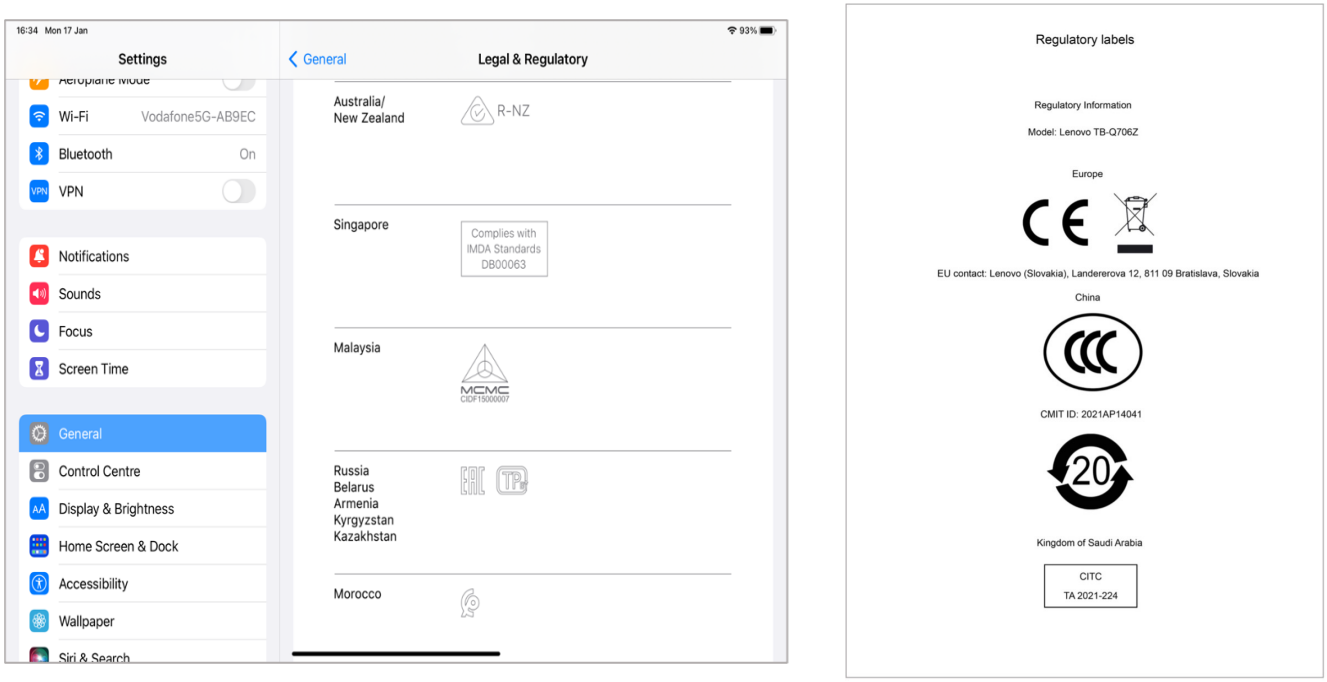


**Figure 3:** Examples of e-labels within tablets

E-labelling allows information for every market to be provided within the device, something that is difficult with the current system because of the limitations of physical labels and the variety of marks and information requirements needed for different markets. It also means that compliance and regulatory marks don't need to be affixed or engraved on the device but still be accessible throughout the life of the device.

## Electronic labelling, a global perspective

Currently, 21 countries around the world have replaced traditional labelling requirements with the option to use electronic labelling for mobile phones. These countries include the following:

Argentina, Australia, Brazil, Canada, China, Ghana, India, Indonesia, Japan, Malaysia, Mexico, New Zealand, Pakistan, Samoa, Singapore, South Africa, South Korea, Taiwan, Thailand, United Arab Emirates and the United States.

At the time of preparing this paper, the United Kingdom is currently going through a consultation process with a view to allowing its introduction while Vietnam will allow it from June 2022.[3] None of the countries have reported any downside related to the adoption of e-labelling.[4]


**Figure 4:** Countries that have either adopted or in the processing of adopting e-labelling (as of February 2022)

Viewed by sales revenue, North America, China and Developed Asia where e-labelling is already permitted accounted for €498 billion EUR ($567 billion USD) in consumer electronic sales revenue in 2018 compared with European sales revenue of €196 billion ($223 billion USD) (see Figure 5).

When viewed another way, by 2018 countries that allowed e-labelling already equated to 56% of the global market share. Including the Brazilian and Argentinian markets which account for about 50% of the Latin America region, that percentage was close to 60% of the global market share in 2018.[5]

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3 Vietnam's WTO Notification of the changes allowing electronic labelling is available from here: https://ec.europa.eu/growth/tools-databases/tbt/en/search/?tbtaction=get.notif&Country_ID=VNM&num=216&dspLang=EN&basdatedeb=&basdatefin=&baspays=HUN&baspays=HUN&basnotifnum=30&basnotifnum2=&bastypepays=&baskeywords=&lang_id=EN&addendum_num=0&corrigendum_num=0&supplement_num=0&revision_num=0

4 Research into e-labelling schemes outside the EU, Valdani Vicari & Associati, 2018

5 Based on the latest data available from Statista.

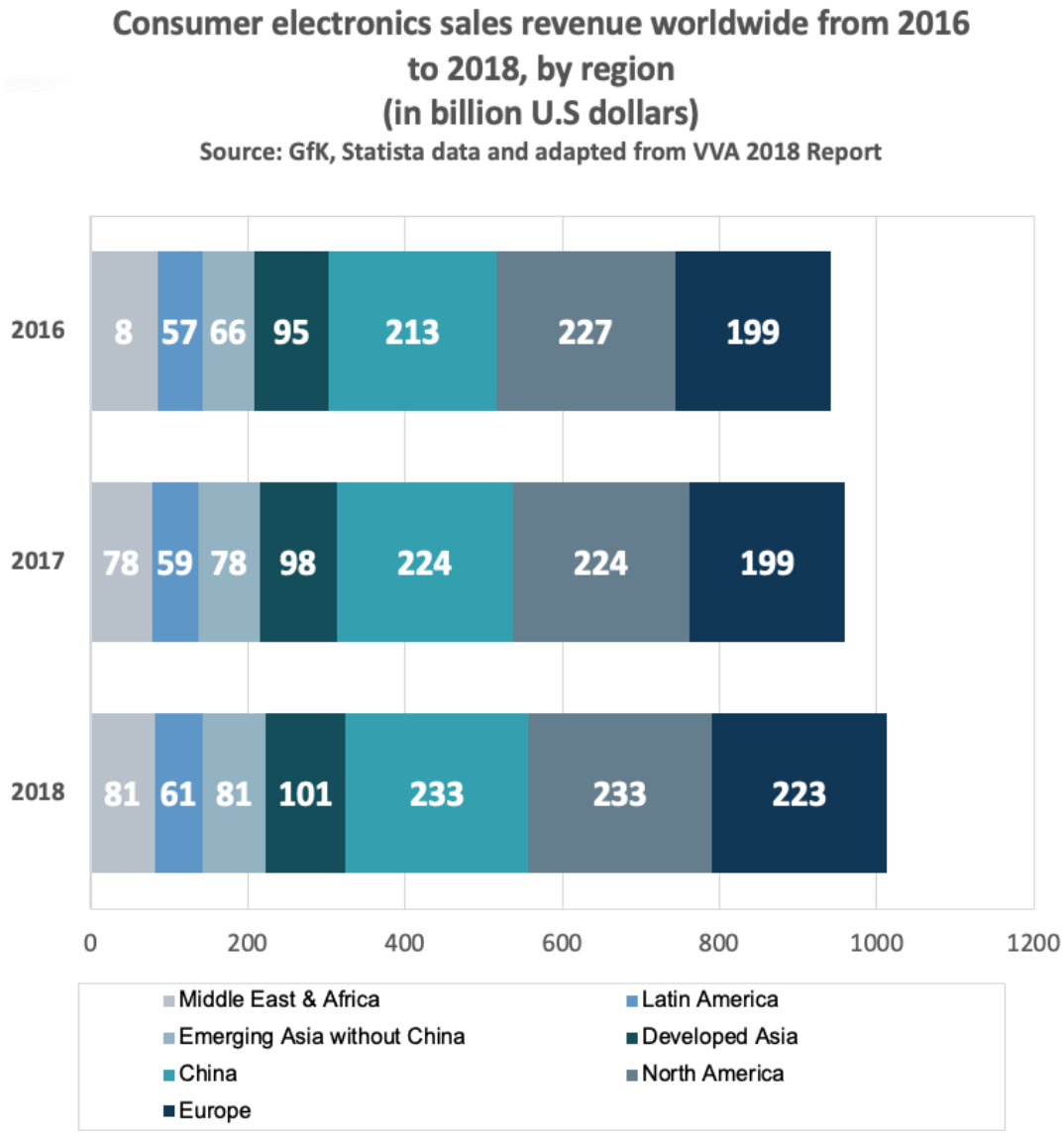


**Figure 5:** Consumer electronic sales revenue worldwide from 2016 to 2018 by region.

# Benefits of electronic labelling

## Environmental Benefits

The environmental benefits of e-labelling are significant. They fall into three categories:
The first is in relation to the printing of compliance information on paper that currently must be included with the product. The second is in relation to the printing of this information and the etching of regulatory marks on the device required in markets such as the CE mark in the European Union. The third is in relation to the reduction of the negative environmental impact associated with repurposing devices for markets with different labelling requirements.

The impact of switching away from paper compliance statements is significant. Calculations show that in Europe alone, the equivalent of 48 million sheets of A4 paper could be saved every year. Stacked on top of each other that would be as high as Mont Blanc.

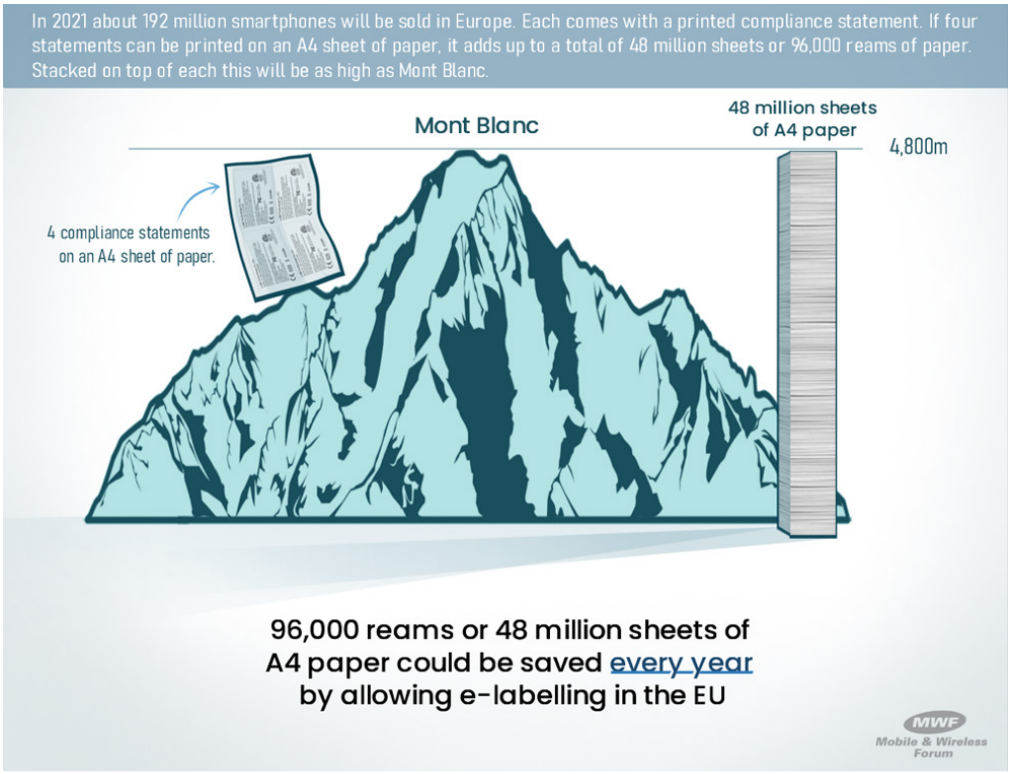


**Figure 6:** Amount of paper currently used each year in the EU for compliance information for smartphones.

It is not just the paper itself that is saved. With a single A4 sheet of paper requiring 10 litres of water for its production[6], the water savings alone of allowing e-labelling would amount to 480 million litres every year in Europe.

6 https://www.theworldcounts.com/challenges/consumption/other-products/environmental-impact-of-paper/story

*E-labelling is also already accepted within a number of EU Directives e.g. for maritime or medical equipment.*

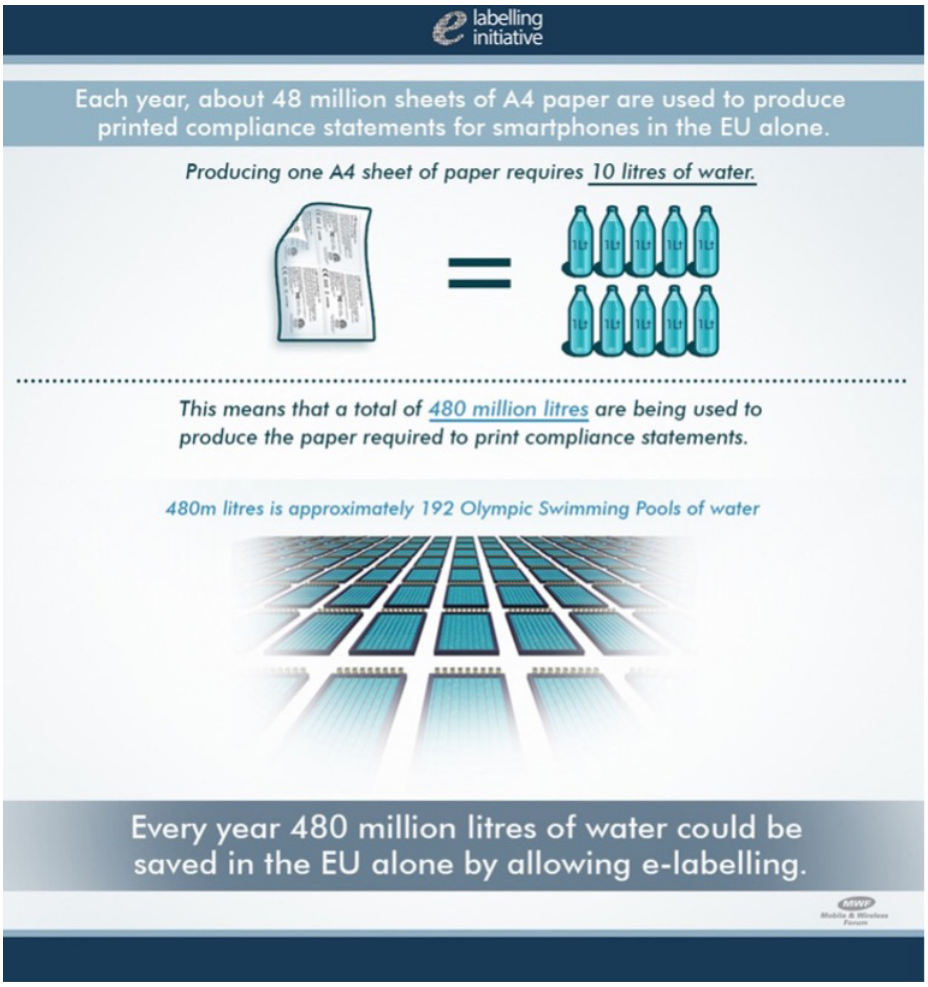


**Figure 7:** Amount of water used to produce compliance statements for smartphones alone in the EU each year.

In addition, the avoidance of compliance information in packages reduces the weight of the final products – and this has a bearing on the $CO_2$ emissions produced. For example, to transport by air from Shenzhen, China to Frankfurt, Germany the 96,000 reams of A4 paper used every year for compliance information for smartphones sold in Europe, would generate just over 1m kgs (1,000 tonnes) of $CO_2$ emissions.

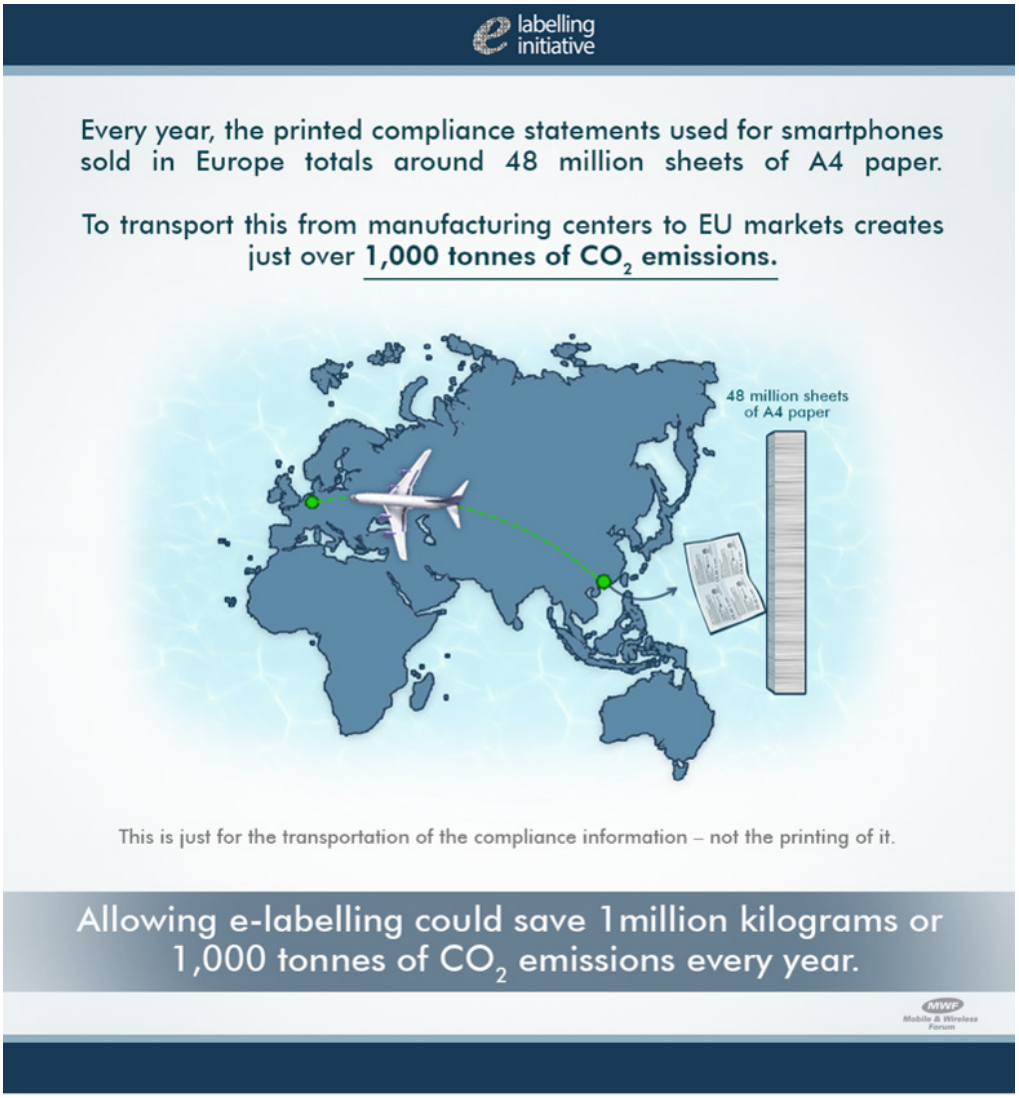


**Figure 8:** Amount of $CO_2$ emissions generated as a result of the paper produced for smartphones sold in the EU each year.

Furthermore, when moving products in or out of Europe they require repurposing to remove or add the physical labels required in the target market. This requires avoidable additional transport to factories to replace back covers or enclosures and the discarding of the unused enclosures that bear markings that are no longer needed. This process results in additional avoidable $CO_2$ emissions and waste creation. Finally, there is also the environmental cost of the etching process itself which involves a number of chemicals.

## Consumer

When a consumer purchases a new electronic product, the compliance information is not a top-of-mind consideration. In fact, most consumers barely read such information, if at all, and it is likely to be thrown away with the product packaging.

As indicated earlier, the 'Special Eurobarometer 342: Consumer Empowerment' study undertaken by TNS Opinion & Social for the Commission found that

> *"Only a quarter (25%) of the Europeans knows the real meaning of the (CE Logo) even though it is the most well-known logo. One-third of the respondents (33%) believed incorrectly that it implies the product is made in the EU. Almost three out of ten respondents (29%) say they don't know."*

And it is important to note that the consumer body ANEC has been very critical of the current CE marking requirements, stating that:

> *"Even though CE Marking is not intended as a mark for consumers, its appearance on many consumer products (or their packaging) is misleading to consumers. ANEC wants o see CE Marking relegated to the technical file of the product. CE Marking is a legal requirement. It is not a safety mark nor quality mark. Also, only some products are required (and allowed) to bear CE Marking. Hence does the absence of CE Marking mean that a product is exempt or non-compliant?*

E-labelling therefore addresses these concerns in a number of ways. It ensures that there is access to compliance information throughout the life of the product should there be an interest from consumers in learning more, but its placement on the device without further information or context doesn't mislead or confuse consumers. In fact, in the existing implementations of e-labelling such marks are located in a section that is clearly identified as regulatory information thus avoiding any confusion as to its meaning. Likewise, e-labelling does allow additional information to be included to provide a proper explanation for any of the marks or information that is required to be displayed. As can be seen in Figures 1-3 the device provides a lot of freedom as to how and what information is displayed and is now not uncommon for manufacturers to show all relevant compliance labels and information within the device - even for markets such as the EU where e-labelling is not currently accepted, because it demonstrates the ease and sense of such an approach.

*MWF does not believe that allowing for e-labelling needs to be a complex matter.*

As ANEC has also pointed out the CE mark doesn't guarantee compliance[7], it is after all a statement by the manufacturer as to the products' compliance. However, there are also many counterfeit products on the market that also carry the CE mark, because the printing of the CE mark on a counterfeit product is one of the easiest steps counterfeiters do. Compliance itself is determined by the underlying documentation in the technical file for the product and not by the presence of a logo or mark on a product. In contrast e-labelling can provide better integration with genuine manufacturers and facilitate easier identification of counterfeits for the benefit of consumers safety.

*Calculations show that in Europe, the equivalent of 48 million sheets of A4 paper could be removed every year.*

Finally, consumers benefit from the greater accessibility that e-labelling allows. The current system simply does not provide for users with vision impairment or loss, whereas information within the device can be accessed with the benefit of the numerous accessibility features available today, including screen readers to read out the content, enlargement of text and marks, greater contrast or inversed display, bolded text, or colour filters. In stark contrast to the current system e-labelling provides any user with a far more flexible method of accessing compliance information.

Therefore, consumers benefit from e-labelling through access to compliance information throughout the products lifetime, without the confusion and risks that are associated with its use today and in a format that allows for better, more accessible information to be provided.

## Market Surveillance

E-labelling has no real impact on market surveillance authorities (MSA's). In the first place, e-labelling can be accompanied by a QR code on the product packaging that takes market surveillance authorities in any country to the manufacturer's compliance information for that model. This information is the same as that contained within the device itself, but saves that device being opened unless the MSA officer wishes to do so.

If the product is opened, then the e-labelling information is readily available within the device software under the regulatory section of the menu.

While a printed compliance statement is easy to fake, ensuring that the information within the device is accurate for all markets and aligning that with the information available via the QR code on the outside of the packaging is not. So an added benefit for MSA's is the easier identification of counterfeit products.

7 ANEC Position Paper "CE Marking: Caveat Emptor – Buyer Beware", ANEC-SC-2012-G-026final, Nov 2012

## Business/operational

Under the current scheme in Europe, the total costs of indicating compliance were calculated to be more than €797 million per year. The introduction of e-labelling would reduce this by approximately 15%, or about €119 million per year. According to the VVA (2018) study these savings are due to:

- lower costs associated with updating compliance information already on the market;
- lower costs related to differences in national compliance procedures;
- lower administrative burdens associated with answering requests from MSA's.

While these costs have been estimated for Europe, companies operating globally would see much higher savings since many other countries would simply move to accept e-labeling if the major trading markets of Asia, North America and Europe were aligned.

In addition to these savings, there is the impact that this will have on innovation. Removing the requirement for physical labelling on a product means that companies are free to explore additional product innovations in the form of product size, shape or function.

*Electronic labelling (e-labelling) is a more environmentally responsible, consumer and accessibility-oriented approach with the required information readily available within the device itself.*

One such potential innovation for example, lies in reconfigurable radio systems. Due to their nature, only e-labelling would be adaptable enough to allow updates to compliance information as needed throughout the life of the device in such flexible environments.

# The way forward

Based on an extensive survey within its member companies, the MWF would recommend the following dual approach to allow e-labelling within devices which we believe would satisfy all stakeholders needs.

## 1. Via a QR Code on the outside packaging

This method allows links to all relevant compliance information for a particular model to be made available via a QR code displayed on the product's packaging.

This ensures that MSA's and any other interested party can quickly and easily access the compliance information without having to open the packaging of the device.


**Figure 9:** Representation of the process of using a QR to access compliance information for a product.

The QR code links to the manufacturers website that displays all the same compliance information that is contained within the device.

If the packaging is opened and the device activated, the information shown on the manufacturers page can be compared to the information within the device – which provides an additional check that is not available today.

Therefore, the QR code would replace existing markings on the packaging by providing them electronically.

## 2. Via the Device itself

Complementing the above approach, the device itself carries all the compliance information required within the operating system.

This is accessed via the Settings >> Regulatory page of the device, which will then show the relevant information and details.


**Figure 10:** Representation of accessing compliance information within a smartphone.

## Benefits of proposed approach

This approach has a number of distinct benefits:

1. It aligns the EU with those other markets that allow e-labelling.
2. It removes the need for costly and unnecessary printing.
3. It ensures that the compliance information is readily available – prior to opening as well as after opening and – contrary to the current approach - at any time during the lifetime of the device.
4. It allows compliance information to be fully accessible via the webpage or in-device for those that require ways of accessing the information other than in printed form.
5. Allows MSA and Customs officials to carry out their compliance checks without any difficulty – and provides an additional check against counterfeit devices that is not available with the current approach.

## Policy recommendations

E-labelling is the first step in the direction of the digitization of information requirements for products entering the market, a broader trend currently being discussed in various markets. At EU level, the preparatory work is ongoing for the development of a Digital Product Passport which has the potential to digitize information requirements more broadly.

E-labelling is also already accepted within a number of EU Directives e.g. for maritime or medical equipment. In July 2021, the Commission published a roadmap and started the public consultation process in November 2021 to adopt electronic labelling for the Chemicals industry, noting in the consultation papers that they consider “simplifying and streamlining labelling requirements” through “the use of digital labelling” as well as “to increase the cost-effectiveness and overall competitiveness” of the affected industry.[8]

8 https://ec.europa.eu/info/law/better-regulation/have-your-say/initiatives/12992-Chemicals-simplification-and-digitalisation-of-labelling-requirements_en

Consideration was also given in the drafting of the Radio Equipment Directive to allowing e-labelling at some future point, as detailed in Recital 47

> "(47) In view of the rapid pace of technological change towards a paperless environment, where radio equipment is fitted with an integral screen, the Commission should examine, as part of a review of the operation of this Directive, the feasibility of replacing the requirements for affixing: the manufacturer's name, registered trade name or registered trade mark and a single point or postal address at which they can be contacted, CE marking and EU declaration of conformity with either a function whereby such information is automatically displayed upon starting up the radio equipment, or a function allowing the end-user to select the display of the relevant information…."

Therefore there are solid grounds from a policy and practical perspective to allow e-labelling and a European scheme can be modelled on existing schemes, established by leveraging international standards such as the work being undertaken for ISO/IEC 22603, or based on any of the existing legislative and regulatory approaches already adopted in other jurisdictions.

In the context of electronic products there seems to be two immediate possibilities to proceeding – either through specific provisions in the New Legislative Framework (NLF) (implicating a wider range of products) or through an amendment to the Radio Equipment Directive 2014/53/EU (RED).

As amendments to the RED are already underway for other issues, this could be an opportunity to allow for the use of e-labels for devices with an integral screen based on the IMCO committee report from back in 2013.[9] That report proposed the adoption of new provisions in Article 10 and 20 to allow that where radio equipment is fitted with an integral screen, requirements laid down in Article 10 and 20 RED may also be fulfilled by displaying the required information on the integral screen.

The NLF is also currently being evaluated and the continued appropriateness of the requirement for physical markings is being considered. As such, the NLF provides an opportunity to unlock e-labelling in Europe for all appropriate devices by accepting that visible, legible and indelible markings can include markings in digital format provided, for instance, within the software of the device and retrievable on the screen of the device. A targeted amendment of the NLF could specify the technical requirements for the e-label and unlock e-labelling in the short term in Europe.

*Therefore, consumers benefit from e-labelling through access to compliance information throughout the products lifetime.*

The MWF does not believe that allowing for e-labelling needs to be a complex matter. As can be seen in other EU Directives as well as in legislation in other jurisdictions, it need only be a matter of recognizing and allowing for an alternative method of displaying and meeting the requirements. To this end, the Commission has already acknowledged this back in 2014, in 'COM(2014)25 final': "E-labelling provides a viable alternative route to meeting the same requirements."

9 A7-0316/2013, Committee report tabled for plenary, 1st reading



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