

DCMS - IoT labelling online study

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Make it Clear

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Executive summary

This report outlines the findings of a study on the online use of product labelling schemes for internet-enabled products. The report is an extension of the physical packaging labelling report conducted by Make it Clear for DCMS as part of the UK Government Consumer IoT labelling scheme project. The same set of products and product segments used in the previous report are included; the full list of products is detailed in Appendix 1.

All of the products reviewed are internet-enabled devices within the following six product categories: Health and fitness; Domestic appliances; Entertainment; Toys and devices for children; Smart Home; Hubs, storage and voice assistants.

Each of the products was reviewed across four retailer websites and the manufacturer website and the research looked to find reference to external labelling, both visual and/or within the text descriptions.

60% of the products reviewed featured some reference to external labelling and 24% showed some form of imagery associated with the label, while 36% referenced the label within a text description or product specifications table.

It's worth noting the percentage figures appear to be relatively high, though this is likely due to the grouping of the labels as a whole. The quantitative results may show that labelling is well represented across the products and websites reviewed, however based on the qualitative feedback from the team conducting the reviewing, the labels were not prominent, and where they were in use did not offer explanation or hyperlinks to external labelling schemes.

One particularly relevant label found was on the Toshiba - 24W3863DB 24-Inch HD Ready Smart TV with Freeview Play manufacturer website. A whole section of the product features page is dedicated to 'Secure Smart TV: Proving how seriously we take your right to privacy, we have become the first TV brand to be certified and approved as secure by the Bavarian State Government.' Although only found in one instance, the prominence placed on this certification by the manufacturer shows it is valued highly as part of their communications and marketing of the product.

The research uses a 'yes/no' answer to the reference of the labels, as opposed to counting the number of times a certain label is referenced. For instance, if a retailer page references WiFi, Bluetooth, and Spotify, the total for the Compatibility/Connectivity labelling is 1, rather than 3. This method of data collection was chosen to better support an overview of labelling in use and to avoid bias in the results based on the number of types of label available in each category. Visual reference and text reference are counted separately.

Further details of the research are included within the Findings section.

Methodology

The objective of this research was to detail the usage and implementation of external labelling for internet-enabled products across online retailers and product websites.

This research consisted of four main stages:

- > Definition - where the purpose of the research was outlined
- > Data collection - gathering the raw data based on a review of 200 web pages
- > Analysis - review and evaluation of the data set
- > Report - communicate the findings of the research

For the purposes of this study, labelling is defined as external to the product manufacturer, for instance a managed initiative that a product adheres to. This research considers both voluntary and mandatory labelling. Iconography and symbols designed by the manufacturer, for example to promote features or functionality of the product, are not included.

The study is based on a total of 40 products within the six product categories. Each product was reviewed on four prominent retailer websites: Currys, John Lewis, Amazon and Google Shopping, and the manufacturer's product website. The study looked for evidence of labelling in two areas: labelling imagery such as icons, logos, and symbols to show the product's inclusion or compliance with relevant schemes; and reference in text on the website such as in product specifications and descriptions.

For each product, the listing on the relevant website was found through a Google Search using the product name and the relevant retailer. The full page was then reviewed, looking for labelling references. When labelling was visible, the review considered the position on the page, hyperlinks, the format of the labelling – whether written or visual (an icon) – and any other relevant features of the labelling. The findings were recorded in a spreadsheet to support analysis of the data following the online review.

On completion of the data collection, the analysis stage looked for correlations, patterns and totals in the implementation of labelling across the retailers' websites, the manufacturer website and the data set as a whole.

There were a few limitations with the research, which were mainly due to the availability of the products across all of the retailer websites. Also, in a few cases products did not have a specific page on the manufacturer website.

Findings

Overview

A total of 159 pages were reviewed as not all retailer websites sold all of the products. The findings are based on this total figure, rather than the 200 pages that were searched for as part of the study. Percentages have been rounded up to the nearest whole number, unless low than 1 where 0.5% is used. An overview of the results for the full data set can be seen in Appendix 2.

From the full data set, 24% of pages reviewed displayed a labelling scheme using an image or symbol, with the most common type of label being connectivity/compatibility with 12% followed by energy/efficiency labels with 6%.

36% of the pages reviewed reference labelling within the text, usually within the product description or specifications table. The most common label type again was connectivity/compatibility with 40% of the references, followed by health and safety labels with 10%.

Where label icons/images were shown, the product image section of the website was the most common location and often included multiple images with the ability to scroll through them. This was particularly common on manufacturer websites, with compatibility/connectivity (30%), awards (11%), and energy/efficiency (8%) being the most common label types. Reference to labels when used without imagery were limited to product descriptions and specification tables. The specification tables generally required at least two clicks to locate. Again, compatibility/connectivity (27%) was the most common label referenced, followed by energy/efficiency, environmental and health and safety each with 11%.

None of the products reviewed contained hyperlinks to an external website related to a label. Apple and Amazon do provide a hyperlink to pages on their own website detailing their approach to the wider subject related to the label. For example, the symbol for the environmental initiative, WEEE, shown on Amazon links to a page on Amazon's environmental impact.

Compatibility/connectivity labels are referenced most often but due to the nature of the products reviewed, internet-connected devices, it should be recognised that labelling of this nature is both a marketing tool and an expectation in terms of basic product information.

The findings suggest manufacturers are more likely to present labelling related to their products than the retailers. This is likely due to the increased level of ownership as well as the fact most retailer websites follow the same template, only allowing basic presentation of product information.

Retailer websites

18% of retailer websites reviewed included an image of a label, whilst over double that amount, 41%, referenced labelling in the text.

Manufacturer websites

43% of product pages on manufacturer websites included imagery or symbols to signpost labelling, with 22% referencing labels in the text.

Types of labelling

The research found a variety of labelling, both shown as imagery and referenced within the text. Categories of the labelling, and the percentage amount that they appeared within the full data set, are outlined below.

Connectivity/compatibility - includes WiFi and Bluetooth connectivity, standards such as IEEE, compatibility with operating systems, app stores, smart home set-ups such as Nest, Hue, Samsung SmartThings, and external services such as YouTube and Spotify.

Image/icon: 12%

Text reference: 40%

Energy/efficiency - for example energy ratings, CFC/HFC free, and filtration tests. The ErP fiche energy rating was found as one of the set of product images, while the Quiet Mark was shown on the Amazon page for the Bosch Washing Machine.

Image/icon: 6%

Text reference: 7%

Environmental - this includes the Waste Electrical and Electronic Equipment Directive (WEEE), RoHS (Restriction of Hazardous Substances directive), recycling and CE labels.

Image/icon: 3%

Text reference: 4%

Health & Safety - labels such as age range, 'manufacturer recommended age' and health compliance labels such as allergies and asthma. Reference to these labels were only found in text descriptions or specification tables; there were no examples of imagery such as a logo or symbol.

Image/icon: 0%

Text reference: 10%

Security - these include Police NMPR scheme and the Bavarian Government approval scheme.

Image/icon: 0.5%

Text reference: 0.5%

Awards - a prominent label type throughout the research references specific awards a product has achieved. These were mostly design and consumer related such as Which? and Mumsnet.

Image/icon: 5%

Text reference: 0%

Segment overviews

The research found a variety of labelling, both shown as imagery and referenced within the text. Categories of the labelling, and the percentage amount that they appeared within the full data set, are outlined below.

Health and fitness

Icons

23% Compatibility/connectivity

11% Awards

Reference

57% Compatibility/connectivity

7% - Health & Safety

4% - Environment

Domestic appliances

Icons

6% - Compatibility/connectivity

20% - Energy/efficiency

3% - Environmental

3% - Awards

Reference

40% - Compatibility/connectivity

22% - Energy/efficiency

6% - Environmental

6% - Health & Safety

Siemens Washing Machine was the only product to provide an external link to the label in reference. However, this was in the form of a PDF download of the energy rating from the manufacturer website rather than a link to the external labelling website.

Entertainment

Icons

10% - Compatibility/connectivity

7% - Energy/efficiency

7% - Awards

3% - Security

Reference

4% - Compatibility/connectivity

3% - Energy/efficiency

3% - Security

The Toshiba 24-Inch HD Ready Smart TV with Freeview Play has a section outlining security and includes reference to the fact it is the 'First brand to be certified and approved secure by Bavarian State Government.'

Toys and devices for children

Icons

8% - Compatibility/connectivity

8% - Awards

4% - Environmental

Reference

8% - Compatibility/connectivity

45% - Health & Safety

The Marvin's iMagic children's toy included an image of the Magic Circle logo as a product image on the Amazon listing.

Nerf Laser Ops Pro referenced the availability of the app associated with the product.

Both the manufacturer website and the Amazon listing had information as small print stating the app was only available until June 30, 2020 and direction to check the Nerf website for more details.

Smart home

Icons

10% - Connectivity

10% - Environmental

Reference

38% - Compatibility/connectivity

10% - Environmental

3% - Energy/efficiency

3%- Health & Safety

The Sonoff - Basic (Smart WiFi switch) product imagery shows a prominent RoHS (Restriction of Hazardous Substances directive) label on the product itself, however this is not mentioned anywhere in any descriptions across all websites.

> the Sonoff also uses an internal label to signify that it is the first to produce a universal WiFi switch module in the smart home industry - though this is not an external label, the purpose and execution are similar to an award or accreditation which could indicate the value of such a scheme to a manufacturer.

The Salus iT500 had no reference to label or icons but did have a download section which include a PDF of the 'Quick Guide', which was a two-page PDF of a leaflet that if printed would show iconography on the back page of the guide: ISO090001, UKAS quality accreditation and CE, EAC and WEEE labels.

Hubs, storage and voice assistants

Icons

20% - Connectivity

Reference

60% - Compatibility/connectivity

6% - Energy/efficiency

6% - Environmental

6% - Health & Safety

Google Shopping overview

An overview of Google Shopping, and the filters available, is included at the request of DCMS.

Google Shopping aggregates product listings from other online stores. There is a difference in the level of information provided, with some having a 'Details' tab whilst others only have a short paragraph with a description of the product. The level of information appears to depend on the seller, rather than Google Shopping. There is no option, outside of product image carousel, to display labels or additional imagery. The only examples of visual labelling were found within product images, though only in 2 of the 38 products reviewed (5%). However 37% of the products reviewed included reference to compatibility/connectivity, most commonly found in technical specifications tables, however this requires two clicks to access.

For products noted as 'smart', the product details table features an Internet of Things (IoT) section including the following:

- > Internet of Things (IoT) Compatible
- > Internet of Things (IoT) Hub
- > Platform
- > Communications Type
- > Intelligent Assistant Compatible
- > Voice Control

As Google Shopping is effectively a search engine for retail websites, there are a number of options provided to filter results. These include:

Results filters

> Show only

- Available nearby
- New items

> Sort by: default, review score, price

> List view or card view

> Price

- Up to £35
- £35 – £100
- £100 – £250
- Over £250
- £ to £

> Brand

> Features

> Seller

Recommendations

The most logical approach for the display of the UK Government's labelling scheme would be as part of a set of product images, in a similar manner to awards labels or Quiet Mark. Adding the labelling directly to product images would be a relatively simple task for manufacturers and would require no additional work from retailers. The main challenge with this approach lies with providing consumers with an easy way to find out more information about the labelling scheme as product images do not support external links. The recommendation for this would be to ensure the terminology on the label is sufficiently clear to allow consumers to search for the phrase included on the label. In addition, manufacturers should be provided with a 'boilerplate' description explaining the labelling scheme and encouraged to include this within their product description.

Engage manufacturers

There was significant correlation in the written product descriptions and product imagery across the different retailers, which suggests the retailers use information supplied to them by the manufacturer. Awards were shown within the product image set. A recommendation for the UK Government's labelling scheme is to supply manufacturers with visual assets for the labelling scheme and supporting information to enable them to include reference to the labelling within their product imagery and descriptions.

Provide the source to link

None of the labels found linked out to external sources of information. Amazon and Apple both have specific pages on their own websites outlining their commitment to relevant label schemes. To encourage manufacturers or retailers to provide customers with more information a website or other online source of information should be provided to support the UK Government's labelling scheme.

Appendix

15 Appendix 1

17 Appendix 2

Appendix 1

Product list

Health and fitness

Fitbit - Fitbit Ionic (fitness tracker)
Garmin - Forerunner 235 (fitness tracker)
Withings - Smart Temporal Thermometer
Nokia - Smart Temporal Thermometer
Oral-B - Genius 9000 (toothbrush)
Elvie - Pump (breast pump)
Philips - Avent SCD620 (baby monitor)
Motorola - Smart Ear Thermometer

Domestic appliances

Nespresso / Magimix - Expert & Milk
Lenovo - Smart display with the Google Assistant
NutriBullet - Balance
Bosch - WAWH8660GB Washing Machine
Dyson - Pure Cool Link
Samsung - RS68N8941SL Fridge Freezer
LG GSL961PZBV Fridge Freezer
Samsung - WW10N645RPW/EU Washing Machine
Siemens - WT4HY791GB Dryer

Entertainment

Sony - SRS-XB21 Wireless Portable Speaker
Xbox - One S
Humax - DTR-T2000 YouView Receiver
Humax - HDR 1100s Freeview Recorder
Sony - Bravia WD75 32 Smart TV
Google - Chromecast
Toshiba - 24W3863DB 24-Inch HD Ready Smart TV with Freeview Play

Toys and devices for children

Motorola - Digital Video Baby Monitor with WiFi® Internet Viewing

Star Wars - R2D2 App-enabled Droid

Anki - Cozmo

Lego - Boost

Marvin's Magic

Nerf - Laser Ops Pro

Smart home

Nest - Nest Protect (smoke & carbon dioxide detector)

Salus - iT500 (thermostat)

Sonoff - Basic (WiFi smart switch)

Philips - Hue Bridge (lighting control)

Ring - Spotlight Cam (Security camera and spotlight)

Smartwares - HD outdoor IP camera (Security camera)

Ring - Chime Pro (WiFi extender)

Hubs, storage and voice assistants

Google - Home mini

Amazon - Echo Plus

Apple HomePod

Appendix 2

Visual/icon	Total	%
Compatibility/connectivity	19	11.95
Energy / efficiency	10	6.29
Environmental	5	3.14
Health & Safety	0	0.00
Awards	8	5.03
Security	1	0.63
Magic circle	1	0.63
App updates/availability	0	0.00
Text reference		
Compatibility/connectivity	63	39.62
Energy / efficiency	11	6.92
Environmental	7	4.40
Health & Safety	16	10.06
Awards	0	0.00
Security	1	0.63
App updates/availability	2	1.26

Thank you



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