

**Connecting Together for a Safer, Smarter World**

# **Risk identification and risk communication**

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# Simon Long

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## Head of Product Safety at Dyson

# Jeremy Opperer, PhD - Exponent

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# Jeremy Opperer, PhD - Exponent

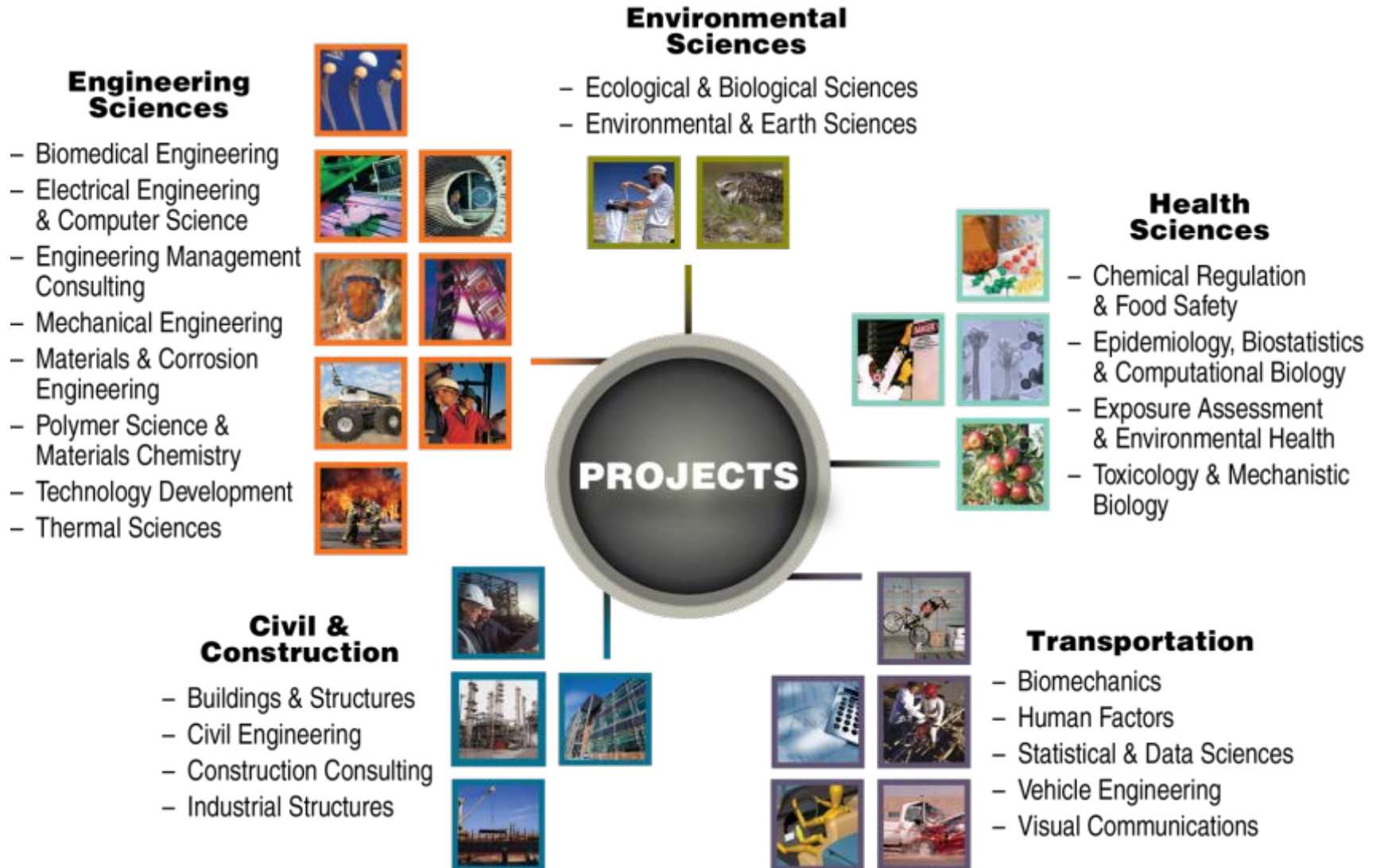
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# Agenda

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- **Introduce Risk** – what are we identifying and communicating about?
- **Foreseeable Use** – who are we communicating to?
- **Warnings and Instructions** – how are we communicating?
- **Registration** – How are we communicating and connecting, and how effective is it?
- **Product Recall** – how does communication with the consumer to help manage recall risk?
- **Panel Discussion** – how do we move forward?

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# What is Risk?

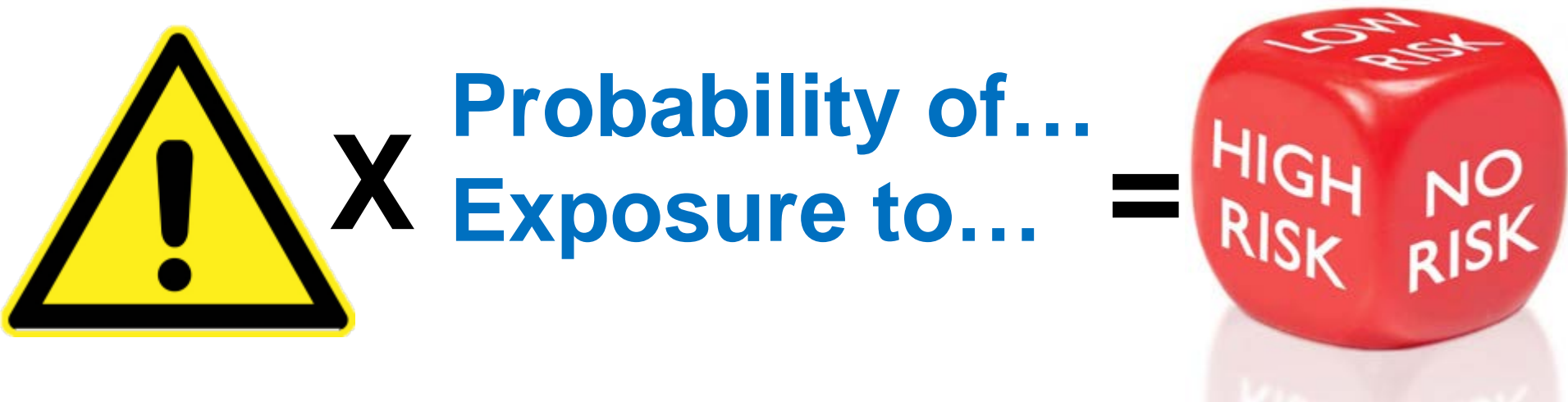


# What is Risk?





# Risk Equation



# Risk Management, Basic Approach

Design out the hazard to eliminate risk


$$\text{X} \begin{matrix} \text{Probability of...} \\ \text{Exposure to...} \end{matrix} =$$


# Risk Management, Basic Approach

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Is this easy to do?

NO!

- Inherent Risks
- Residual Risks
- Unexpected Risks

# Accidents Happen



# Identification and Communication

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- Aim to influence the Probability/Exposure side of the Risk Equation
- Identifying and communicating risk to help influence consumer behaviour

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# Foreseeable Use



# Who is the consumer ...

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... and why do we do what we do?

- People are driven to use products and do things which keep them interested
- Drive to optimize their stimulation, i.e.,
  - Avoid boredom
  - Avoid pain
  - Make our lives easier

# Intended Use vs Misuse: Reasonable Foreseeable Use





# Intended Use vs Misuse: Reasonable Foreseeable Use



# Fit for purpose

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Thoughts when we purchase a product:

- We buy a product for a purpose or a function
- It will DO something FOR us
- It will make our lives easier or better

# 1<sup>st</sup> step: What is it for?

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- What is the intended use of the product?
- Is it obvious to the consumer?
- Are you sure?
  
- Can the intended use be corrupted?

# Example of mobile phone



# Example of cruise control



# Example of two together

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# Extreme example



# Smart Kitchen Example





# Think about Risk and Exposure

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- Critical Path to Injury



- How can we influence consumers at each step, not just advise on intended use?

# What do you do with this?



# How to use your vote pads

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1. Make your choice
2. Press C, to cancel or,
3. Press “OK” to validate.



# What did you have for breakfast?

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1 - cereal

2 - toast

3 - brexit



# What did you have for breakfast?

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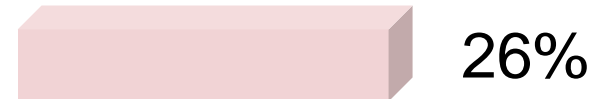
1 - cereal



2 - toast



3 - brexit





# Did you understand all of the features?

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1 - Yes, I understood ALL  
of the features

2 - No, I did not understand ALL  
of the features?

*Think about electronic products you have  
purchased over the years, and answer HONESTLY*



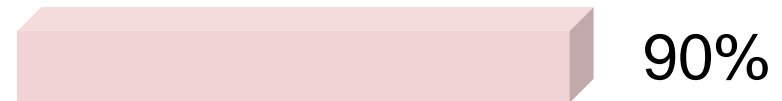
# Did you understand all of the features?

---

1 - Yes, I understood ALL  
of the features



2 - No, I did not understand ALL  
of the features?



# Did you MISUSE the product, even if unintentionally?

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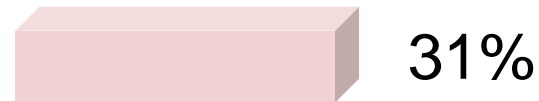
- 1 - Yes, I have misused  
the product
  
- 2 - No, I have never misused  
the product
  
- 3 - I do not know if I have misused  
the product





# Did you MISUSE the product, even if unintentionally?

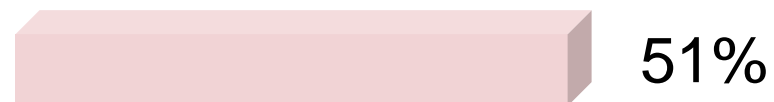
1 - Yes, I have misused  
the product



2 - No, I have never misused  
the product



3 - I do not know if I have misused  
the product



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# Warnings and Instructions

# Warnings and Instructions

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It is about what we communicate to the consumer

- Packaging
- Labelling
- Advertising
- Online information

# Challenges

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- Real estate on the packaging and product
- What stays with the product
- What is thrown out
  
- How do you get and keep the consumers attention? i.e., not selling the fear but selling the features

# Consumer priorities

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1. Wants the utility
  - **Has a purpose in mind**
  - **Does mental expectation match the intended use?**
2. Looks at the price
3. Compares to other options/features
4. "fine print"



# Study on Warnings and Attention Capture

- Assumption is that salience or conspicuousness are necessary and sufficient to capture attention
- Very few features of an object that draw attention to themselves without or against the observer's intentions
- Conspicuously bright or large objects relative to their surroundings do not necessarily grab attention
- The mere presence of a warning does not compel an observer to notice it



[http://thecarseatlady.blogspot.co.uk/2010\\_06\\_01\\_archive.html](http://thecarseatlady.blogspot.co.uk/2010_06_01_archive.html)

# Conditions for possible safety impact of warnings

## WHEN MIGHT A WARNING WORK?

### A WARNING (SIGN OR LABEL) MIGHT CHANGE BEHAVIOR IF A PERSON:

#### 1. Reads and understands the warning, and

##### Person:

Is alert and sober, and

Is seeking information, and

*Feels need for information, based on past experience*

*Hazards suspected, but not observable*

Doesn't filter out the warning

*Not overloaded with information*

*Not previously exposed to excessive, unnecessary warnings*

##### Sign or label:

Is present (only) when and where needed, and

Includes (only) the information needed, and

Is in an appropriate format

*Noticeable, at person's level of information seeking*

*Brief, legible and understandable*

#### 2. Is motivated and able to change behavior.

##### Person:

Would not know there was a hazard without the warning, and

Believes the warning, and

*Warning information is consistent with past experience*

*Conduct of others is consistent with warning*

*Source is credible*

Does not accept the risk, and

*Consequences seen as highly likely (or severe and moderately likely)*

*Does not believe hazard is under his/her control*

*Risk outweighs the attraction of the activity*

*Risk outweighs the social pressure to take risk*

*Risk outweighs the cost/effort of avoidance*

Is capable of making an appropriate change, and

Remembers to change.

### CHANGES IN BEHAVIOR MAY IMPROVE SAFETY IF:

#### 1. The right people change, and

#### 2. The changes reduce accidents.

# Warning and Instruction

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# Limitless Critical Paths?

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- Due to the potentially limitless foreseeable uses, warnings and instructions can become overly complex
- Or become quite silly and address issues which seem far fetched, i.e., Darwin Award

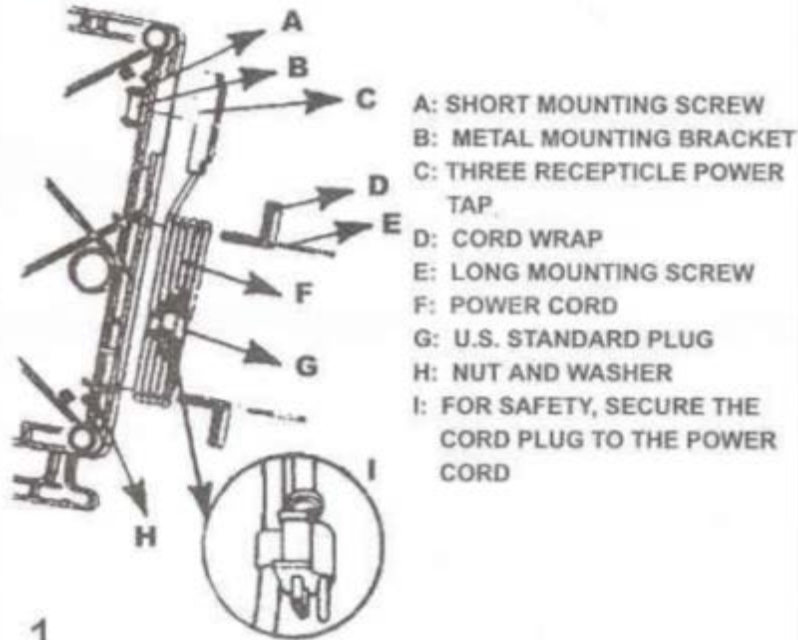
## Example from Consumer Blog

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“The worst thing about the XXXXXX, however, is the sticker on the seat back. It’s one of those warning labels for idiots who don’t have any common sense and cause companies to spend oodles of money on lawyers and graphic designers so they’re not liable for your stupidity. You know the kind. Anyway, the warning label was the first thing you saw when you walked in the direction of my kitchen – and it was an eyesore. So I started to peel it off. Except it wasn’t one of those easy-peel stickers that slips off with one tug. Oh, no. This is one of the worst stickers of all time to remove. I am still scratching at it to get all of the remnants off. ”



# Consumer View



- A: SHORT MOUNTING SCREW
- B: METAL MOUNTING BRACKET
- C: THREE RECEPTACLE POWER TAP
- D: CORD WRAP
- E: LONG MOUNTING SCREW
- F: POWER CORD
- G: U.S. STANDARD PLUG
- H: NUT AND WASHER
- I: FOR SAFETY, SECURE THE CORD PLUG TO THE POWER CORD

1

Insert the 3 receptacle power tap into the cavity provided on the underside of the top shelf.  
Place the metal mounting bracket over the power tap (per drawing) and using 2 short screws (provided) secure the bracket.  
Guide the power cord through the cord management system and secure it with the small plastic "zip tie and screw".  
Attach each "L" shaped cord wrap to the shelf using the nuts (provided).  
Wrap the power cord around the cord wraps and secure the plug to the power cord (per diagram).

**CAUTIONS :**  
PLEASE DO NOT WORRY IF STILL SOME SMELL FROM THIS FRESH PRODUCT WHEN OPEN IT. AS IT IS NON-TOXIC AND NO DANGEROUS WHILE USING. IT WILL GONE IN FEW DAYS AFTERE EXPOSURE IN THE AIR.

# Consumer View

## Where to Find It

Find what you're looking for from:

**Q The Q&A Index** → pp. iv–ix

Know what you want to do but don't know the function name? Find it from the "question and answer" index.

**Q The Table of Contents** → pp. x–xvii

Find items by function or menu name.

**Q The Quick Start Guide** → pp. 22–23

A brief guide for those who want to get started taking pictures right away.

**Q The Index** → pp. 438–443

Search by key word.

**Q Error Messages** → pp. 409–416

If a warning is displayed in the viewfinder or monitor, find the solution here.

**Q Troubleshooting** → pp. 402–408

Camera behaving unexpectedly? Find the solution here.

### **⚠ For Your Safety**

Before using the camera for the first time, read the safety instructions in "For Your Safety" (pg. xviii).

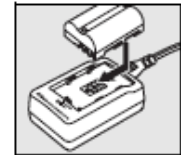
### **Digitutor**

Digitutor, a series of "watch and learn" manuals in movie form, is available from the following website:

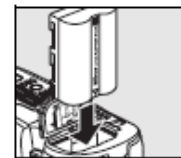
## Quick Start Guide

Follow these steps for a quick start with your camera.

### 1 Charge the battery (pg. 32).



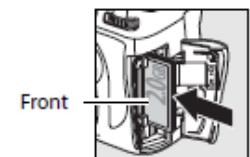
### 2 Insert the battery (pg. 34).



### 3 Attach a lens (pg. 36).



### 4 Insert a memory card (pg. 41).



### 5 Turn the camera on (pg. 46).

For information on choosing a language and setting the time and date, see page 38. See page 45 for information on adjusting viewfinder focus.



# Products are more complicated



# Products can even be “hacked”



# Did you read all of the instructions and warnings (not just glance at them)?

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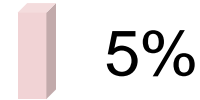
- 1 - Yes, I read All of the instructions and warnings
- 2 - I read some of the instructions and warnings
- 3 - No, I did not read the instructions and warnings

*Think about electronic products you have purchased over the years, and answer HONESTLY*



# Did you read all of the instructions and warnings (not just glance at them)?

1 - Yes, I read All of the instructions and warnings



2 - I read some of the instructions and warnings



3 - No, I did not read the instructions and warnings



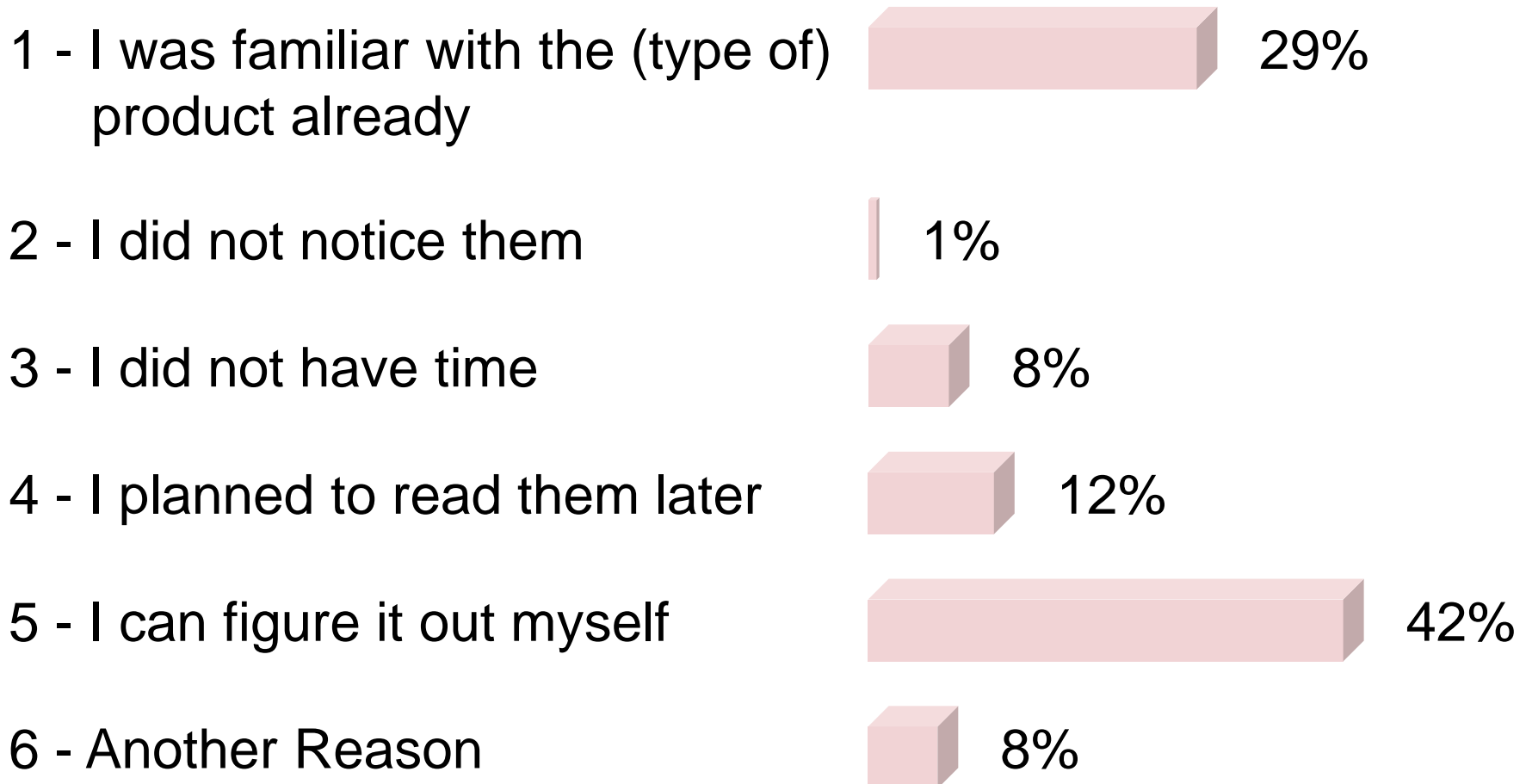


# If you did not read all or any of them, why not?

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- 1 - I was familiar with the (type of) product already
- 2 - I did not notice them
- 3 - I did not have time
- 4 - I planned to read them later
- 5 - I can figure it out myself
- 6 - Another Reason

# If you did not read all or any of them, why not?



# Interactive Question



Think about the last 3 electronic products you have purchased, and answer **HONESTLY** :

Open question, think why not, and also what could have helped to get your attention to read through it all?

- Make note of why you did not
- This of specific reasons for each product
- Note anything that could have changed your behaviour

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# Registration



# Registration trends



# The difficult way

## Product Registration card

Thank you for buying this product. To receive technical support, product upgrade information and to validate your guarantee please complete this registration card, place in an envelope and return it to us at: Any company, Any address, Anytown. PC1 2DE.

Format: **CD32** Date of Purchase

Title  Surname

Address

Post Code

Tel

Fax

Where did you purchase this product?

Store name  Town

When is your car insurance due?

Where do you like to go on holiday?

Do you have a cat?

From time to time your name, address and personal details and first born child may be provided to carefully screened companies. If you don't not want to be non-excluded please don't not tick this box.

# The easy way

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Would you like to register this product to activate your guarantee?



# Did you register your products?

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1 – Yes I register them all

2 – Yes I register some of them

3 – No I register any of them

*Consider the last **3** electrical products you purchased, and answer **HONESTLY***

111





# Did you register your products?

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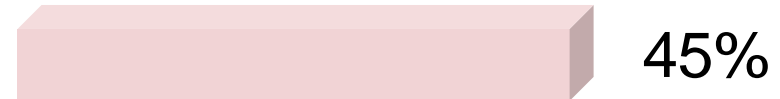
1 – Yes I register them all



2 – Yes I register some of them



3 – No I register any of them





# Why didn't you register them all?

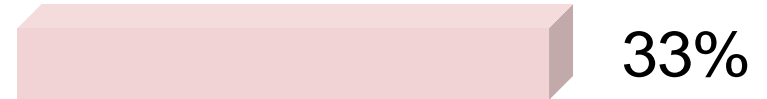
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- 1 – Process was too difficult/  
inconvenient
- 2 – Don't want marketing or  
sales calls
- 3 – If it has a problem I'll register  
it then
- 4 - Registering is of no value

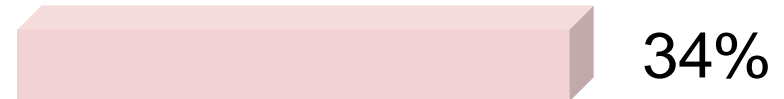


# Why didn't you register them all?

1 – Process was too difficult/  
inconvenient



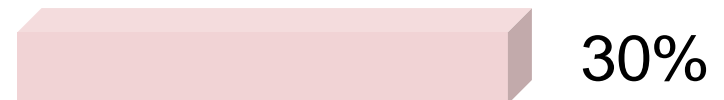
2 – Don't want marketing or  
sales calls



3 – If it has a problem I'll register  
it then



4 - Registering is of no value



# What is the value of registration?

<b>For the manufacturer</b>	<b>Value</b>
Marketing data	Very high
Known guarantee start date	High
Recall database	Low
<b>For the consumer</b>	<b>Value</b>
Marketing data	Negative
Known guarantee start date	Low
Recall database	Low

# How do we increase registration rates?

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# Recall



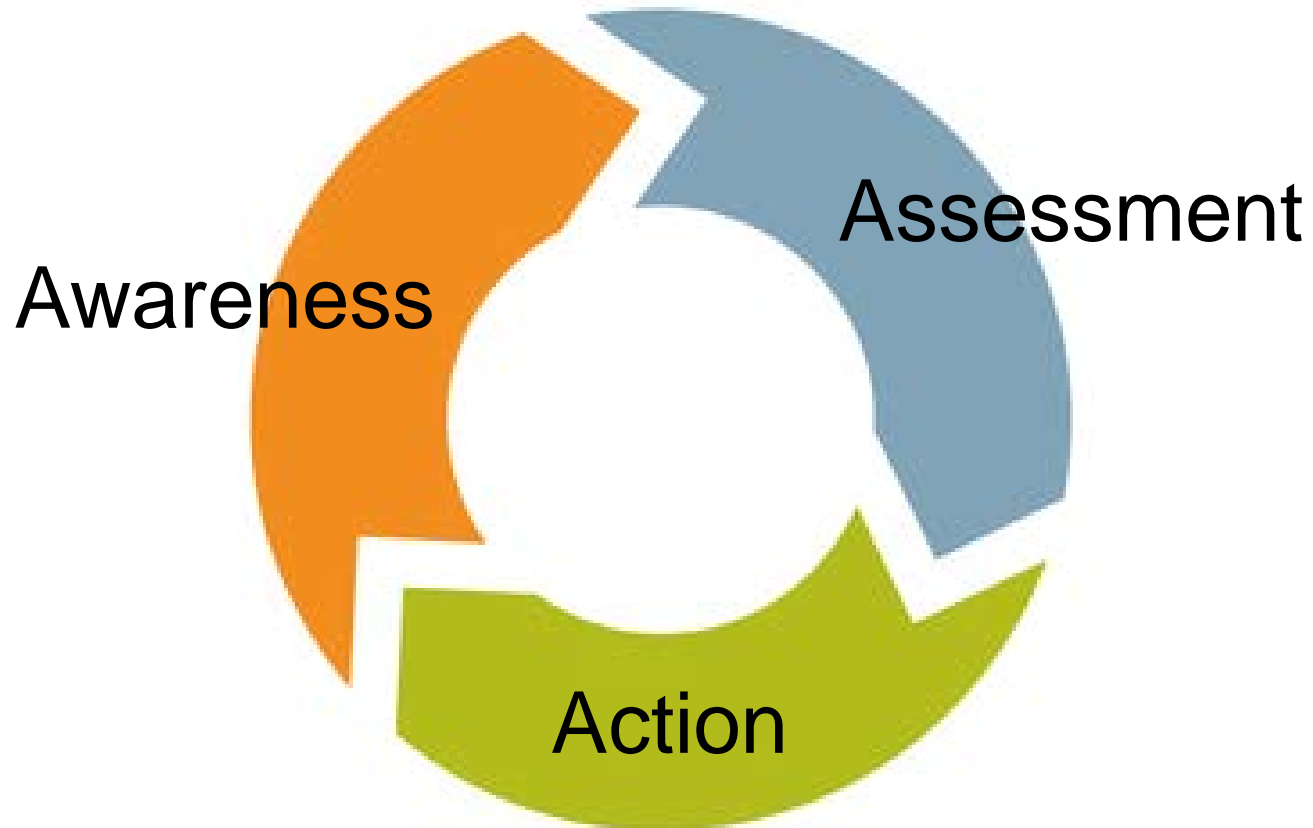
# What is a recall?

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“To keep the public safe by removing potentially dangerous goods from the market place”

# The consumer recall journey

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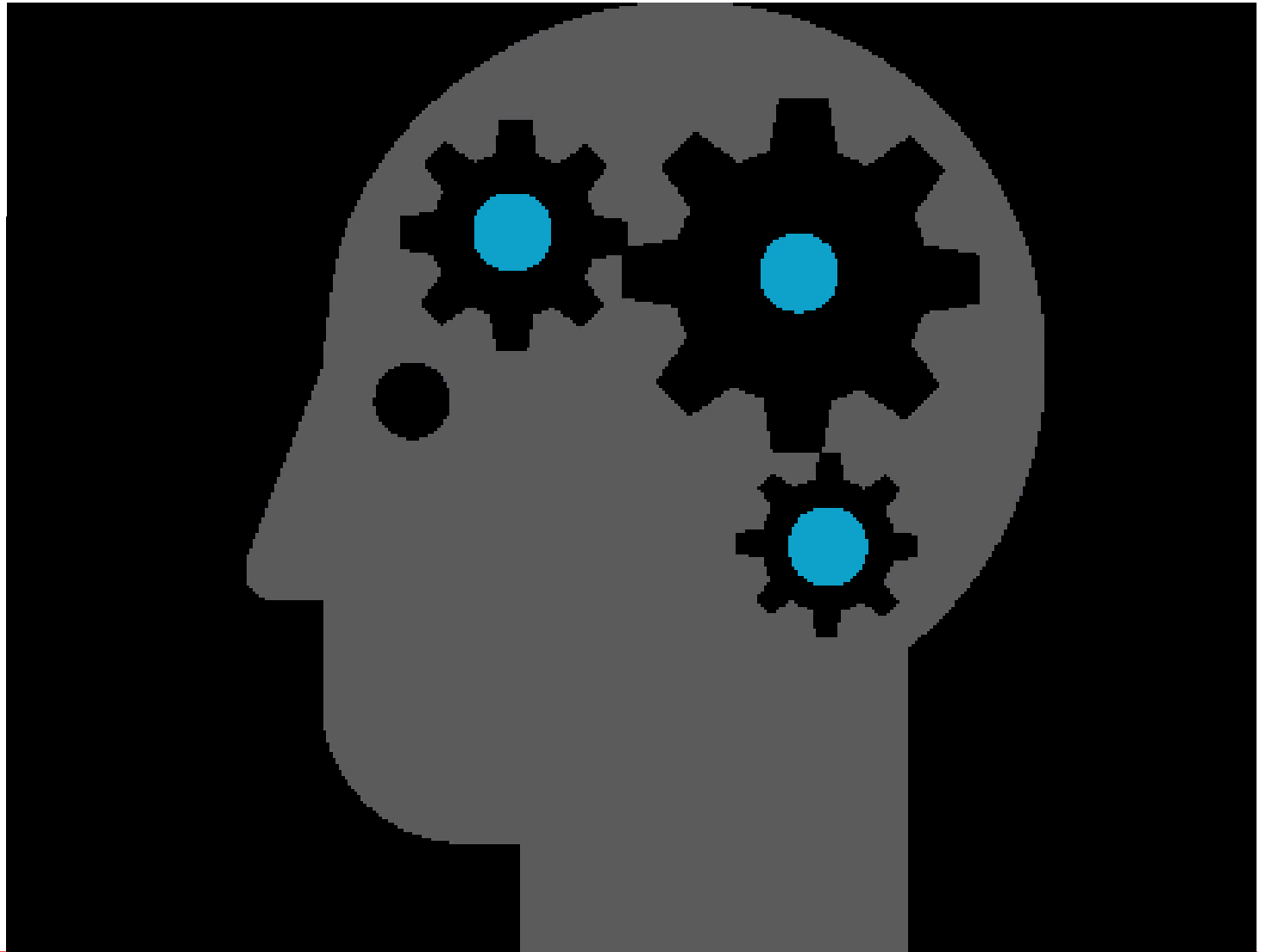




# The route to awareness



# Criteria for assessment



# What action do I take?



**KEEP  
CALM  
AND  
Do  
Something**

# What does good look like?

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# What do recalls actually look like?



20%



# Why are rates so low?

- Ineffective communications
- Too many recalls
- No single source of data

- Poor communication of risk

- Mine hasn't failed
- It won't happen to me
- Process too difficult
- Alternative action taken

# Alternative action- Breaking the chain

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**Harm**

**Hazard**



# Making the right measurement





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# Summary



# What can be done?

## Foreseeable use

1. S
2. C
3. E
4. M
5. F

## Warnings and instructions

1. S
2. C
3. E
4. M
5. F

## Registration


1. Make it easy
2. Reduce mistrust
3. Add value
4. Build registration into IoT products

## Recalls

1. Single source of information
2. Consistent format and detail
3. Explain the risk
4. Make the process easy
5. Fewer recalls

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**Thank you.**



Electrical Safety First is the UK charity  
dedicated to reducing deaths and  
injuries caused by electrical accidents.  
Our aim is to ensure everyone in the  
UK can use electricity safely.

[electricalsafetyfirst.org.uk](http://electricalsafetyfirst.org.uk)

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# Coffee / Tea & Exhibition

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**Back at 15:00  
please!**

