

How well are we handling e-waste?

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Programme 'Track my Trash'



BBC Panorama

- Panorama - BBC's flagship current affairs programme
- The world's longest running investigative TV show
- BBC journalists are impartial
- This presentation summarises a Panorama investigation
- It does not reflect BBC corporate policy

Today's Situation

- 'The amount of e-waste generated each year is
 - 45 million tonnes
(source: UNEP 2009)
 - Increasing 5% per year
- Countries are adopting standards, regulations and facilities to recycle e-waste in an environmentally-friendly manner
 - These regulations are not always being followed!



Example from Africa



“When he turns his hand over, 10-year-old Mohammed reveals the deep open cut on his thumb, visible through the black soot that covers his small hands. Two other cuts have been covered up with blackened, filthy plasters.

He tells me that the wounds are from the sharp copper wire that he is scavenging from the biggest digital graveyard in Africa.”

What problems do we recognise from this example?

- Poverty
 - Adults and children entering toxic waste sites to gather rare metals
- Toxic substances from e-waste entering the environment
 - E.g. lead from TV screens
 - Pollution of river systems
 - Impact on fishermen's livelihood
- Poor collection and recycling of e-waste
 - An investigation was carried out by the BBC Panorama team to identify possible sources of e-waste
 - And the export route e-waste was following from UK



How should e-waste be handled?

- Consumers take waste goods to local waste and recycling centre
- Business to business collection of old IT kit
- Goods are checked for possible reuse
 - If not working then they should be dismantled by specialist facilities for recycling of materials
 - Working items may be repacked and sold on

UK ELECTRONICS BUYING 2010

- ♦ UK consumers bought more than 17 million TVs and computers
- ♦ Computer sales: 8.2 million
- ♦ Television sales: 9.5 million

Source: GFK retail and technology UK



http://ec.europa.eu/environment/waste/weee/index_en.htm

How is the system being abused?

- Non working electrical waste is being exported in shipping containers
 - Sold as tested or not tested in West African street markets
 - Non-working end up in dumpsites
 - Poor people scavenge the site for copper
- Despite regulations governing collection and recycling of waste electrical and electronic equipment (WEEE), only one third in the European Union is reported as separately collected and appropriately treated
 - Source
http://ec.europa.eu/environment/waste/wEEE/index_en.htm



What is being done about e-waste 'Leakage'

- The UK Environment Agency are responsible for regulating the industry.
 - E.g. pro-actively inspecting shipping containers
 - Issuing operating licences
 - Prosecute, Imprisonment and fine
- The Interpol Global E-waste Crime Group.
 - An intelligence-led global operation to investigate the links between organized crime and the illegal export of e-waste.



<http://www.environment-agency.gov.uk/news/108056.aspx>

<http://www.interpol.int/Public/EnvironmentalCrime/Meetings/Ewaste2010/UKEA1.pdf>

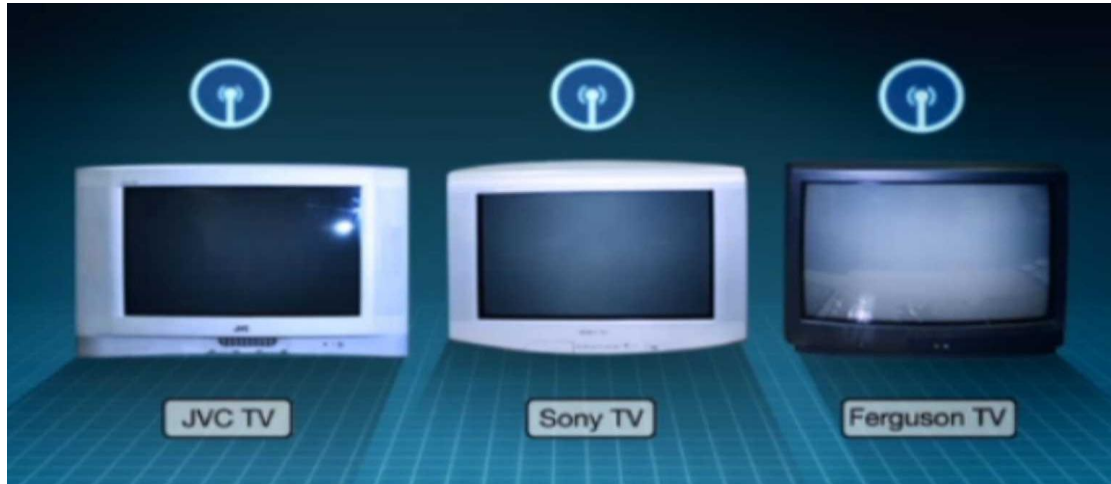
Electronic Tracking of Assets

- Specialist asset tracking company provides a tracking service (e.g. for boats/lorries)
 - Global positioning system detects location
 - Location, time and date data are sent via wireless communications from tracker
 - This information is available on a map on a website for users to track their assets/goods
 - Capable of working inside a shipping container



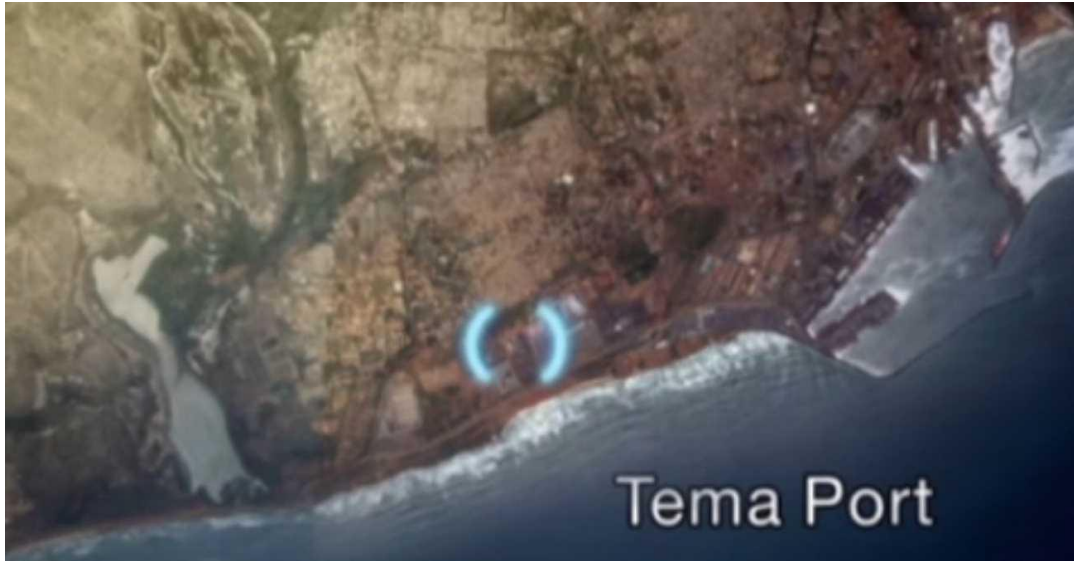
<http://www.mtrackonline.co.uk/home.html>

How was e-waste tracked #1?



- Two television sets broken beyond economical repair, fitted with trackers, were dropped off at waste collection points for disposal companies to collect and process
- One television, broken beyond economical repair, was fitted with a tracker and collected from a fake business premises set up by the BBC.
- One of these televisions was later found in a shipping container, illegally bound for West Africa, at Felixstowe Dock UK
- One of the television sets was recovered in West Africa
- One may have been destroyed and recycled correctly
- Environmental Investigation Agency took criminal proceedings and revoked licences.

How was e-waste tracked #2?



A computer display allows users to track assets graphically over the internet from any location in the world to an accuracy $< 10\text{m}$

Locally (e.g. in West Africa) the TV could be tracked to an individual home using a hand-held monitor



What was the role of TV Broadcast?

- Made UK public aware of correct e-waste collection and recycling
- Made UK public aware of consequences of incorrect handling of e-waste
 - E.g. children dealing in toxic waste
- Made potential e-waste criminals aware of the high likelihood of detection and arrest



What more can be done to improve the handling of e-waste?

- Increased monitoring of e-waste treatment
 - To ensure correct e-waste treatment
 - To eliminate illegal exporting of e-waste
- Penalties for illegal exporting of waste enforced and possibly increased
- For discussion
 - Can the electronics and telecommunications industry do more help to improve the management of e-waste?
 - Is e-tracking the best way to ensure compliance?