

Innovation for a Smarter Planet

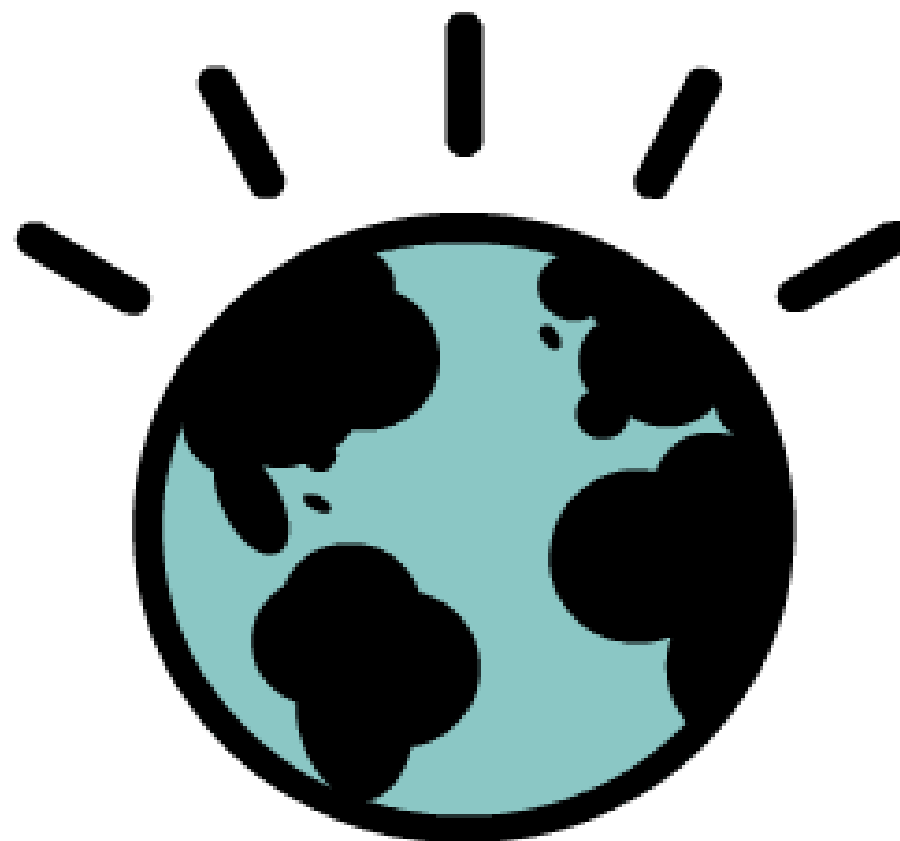
Prof Andy Stanford-Clark

Distinguished Engineer
Master Inventor
CTO Smarter Energy
IBM Global Business Services
Hursley, UK

Visiting Professor – University of Newcastle

andysc @uk.ibm.com

@andysc



Where's my car?

Where's Andy's Car? - Netscape 6

http://www.scadabsp.net/GPS/

Where's Andy's Car?

Alert - 60 second response online
Apply online for a credit card now.
Up to £2500 credit limit. [More Info](#)

Andy's car is here!

Last update:
Thu Jun 12 17:45:26 2003 BST
lat: 50°51.834 N
lon: 1°34.395 W
speed: 37.8 mph
direction: 178.1 deg

[Refresh](#)
[Map](#)

1000m Large Map

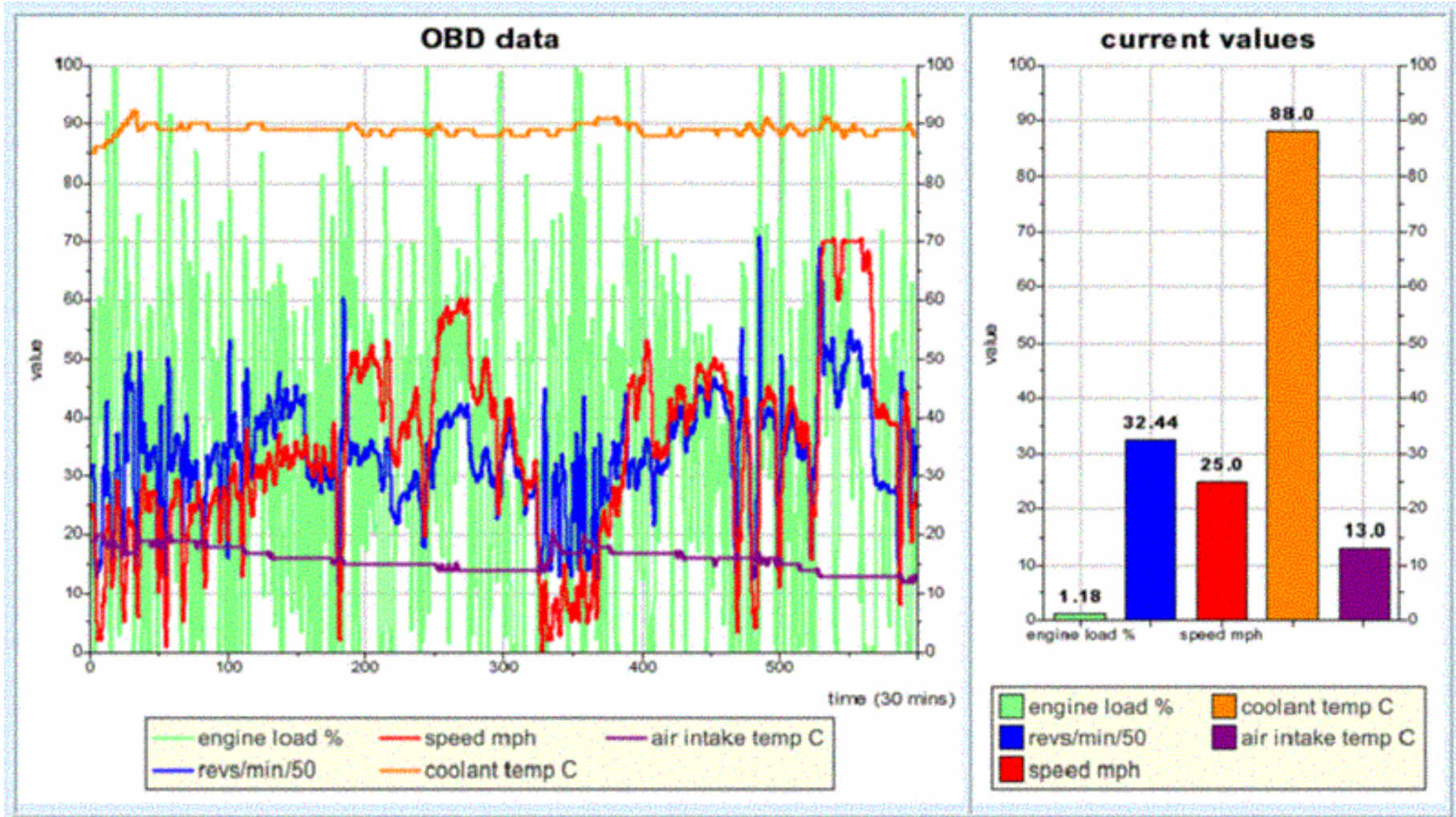
This product includes mapping data licensed from Ordnance Survey
Service supplied by www.StreetMap.co.uk

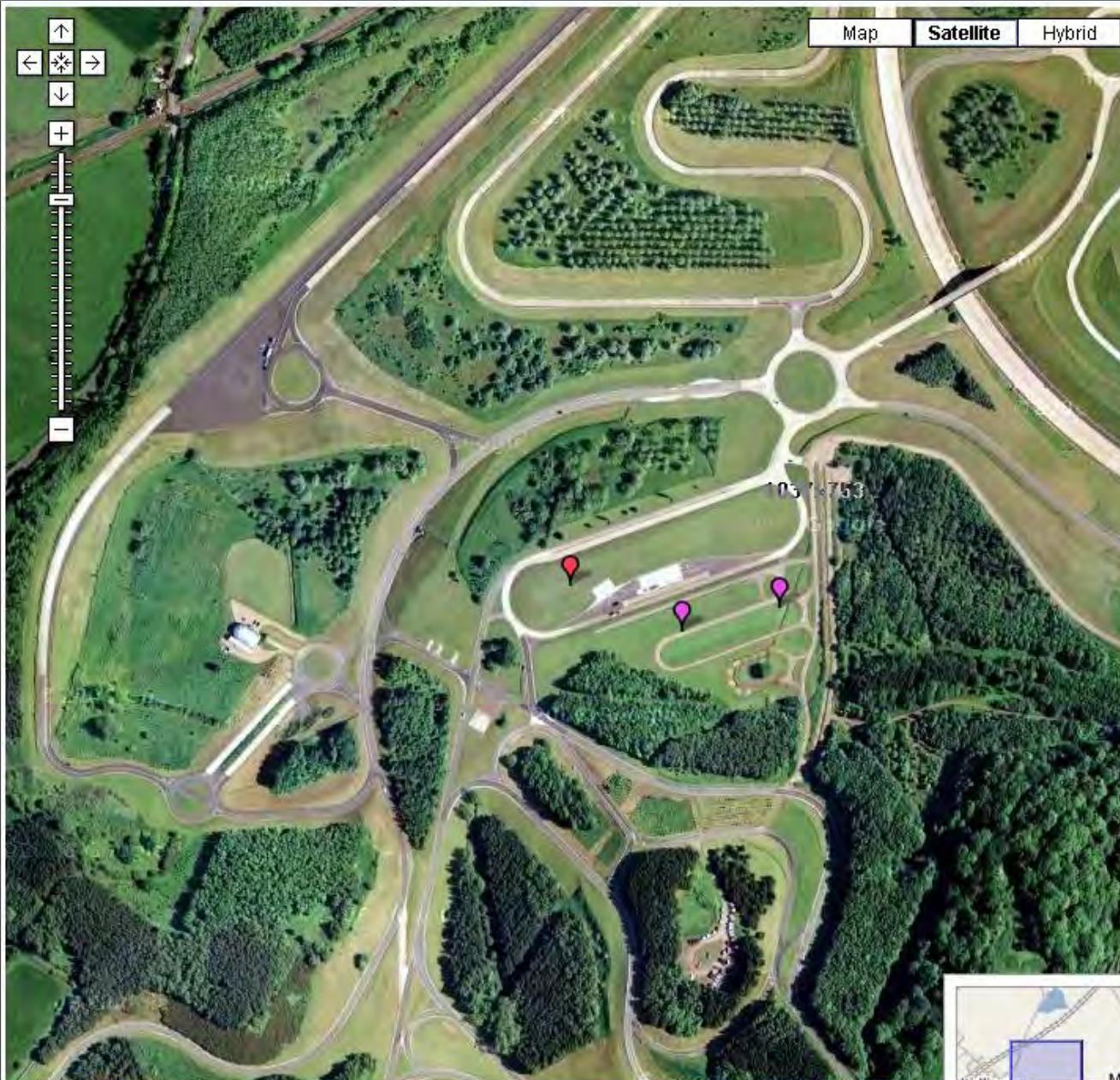
Car tracking





Live engine data





Platform Fit all markers

	HMT600	601
	HMT400	401
	HumVee	H01
	Landrover	L01

HMT600 - 601

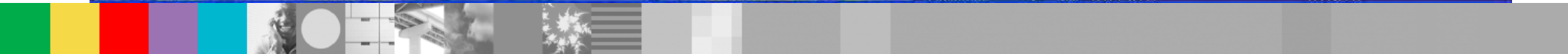
[Centre Map](#) [Toggle Track](#)

GPS [Download Data](#)

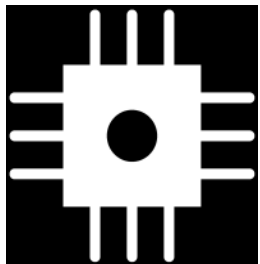
Time	13:53:17
Date	25/06/08
Latitude	52.04056
Longitude	-0.54533
Speed	4 mph
Heading	57.47 °
GPS rate	20 secs + -

j1939

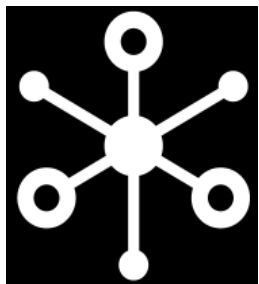
speed-mph	5
oil-psi	24
engine-rpm min	8
engine-rpm max	2040
gear	D1
oil-temp	92
water-temp-C	81
fan	2
battery-V	28
air-inlet-temp-C	46
fuel-trip	2
trip-len	240.48



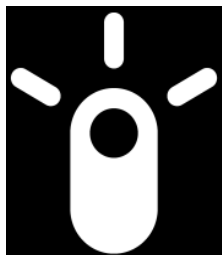
Smarter Planet



INSTRUMENTED



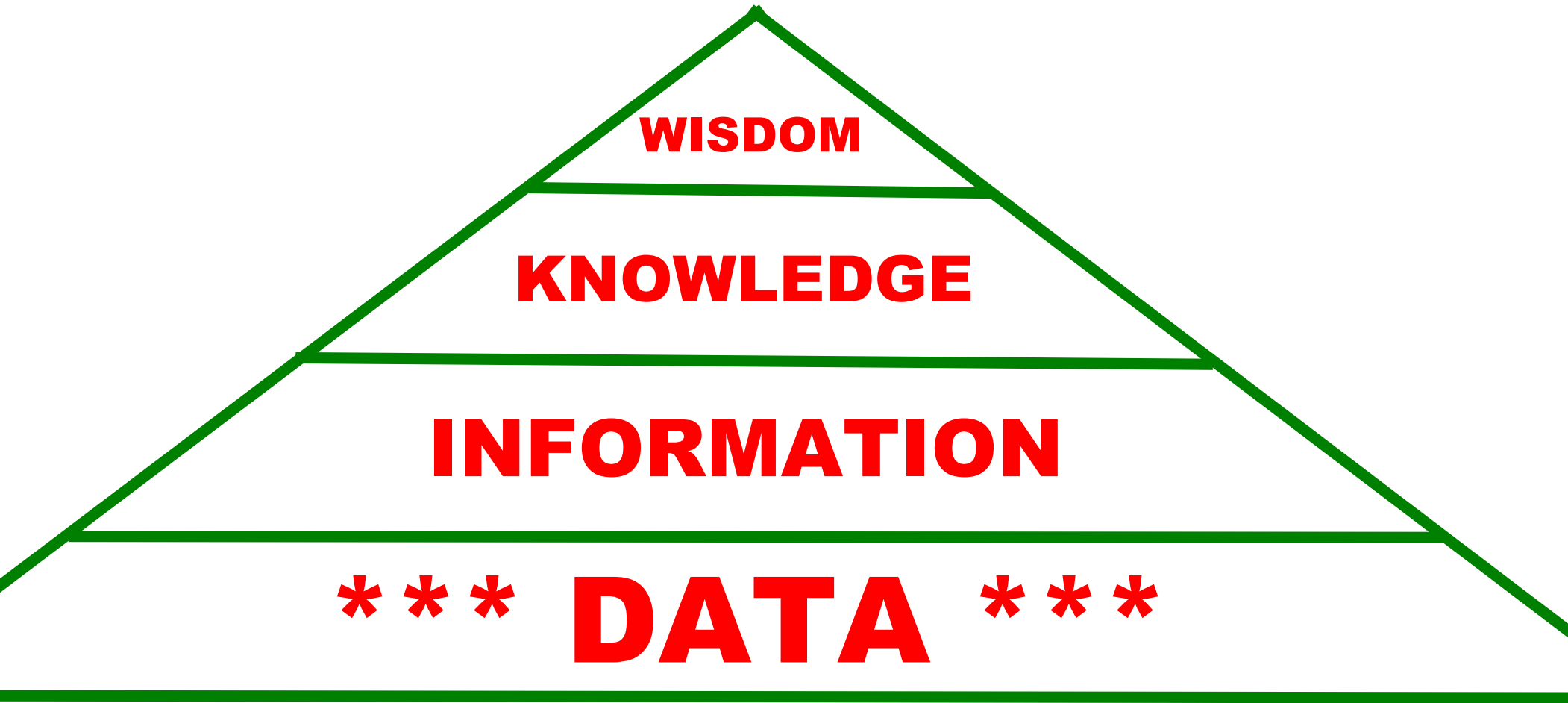
INTERCONNECTED



INTELLIGENT



DIKW triangle



Environmental Monitoring - FloodNet



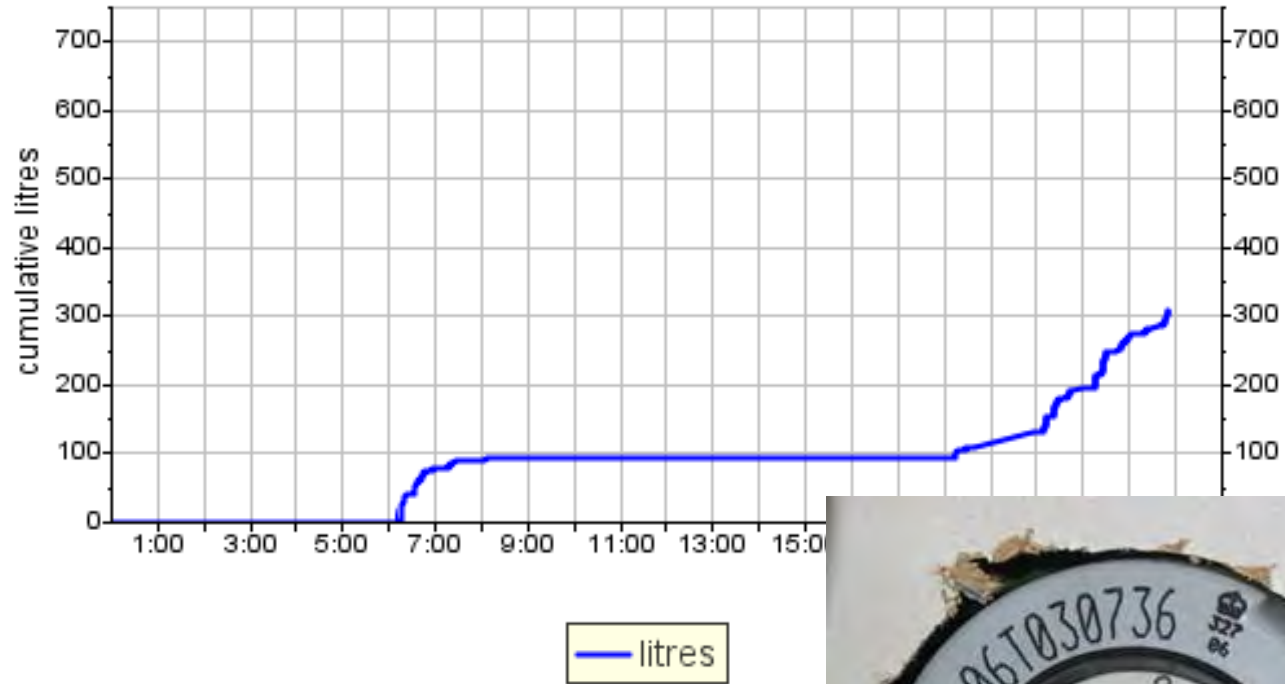
Pervasive Computing in the Environment



Water Meter Monitor



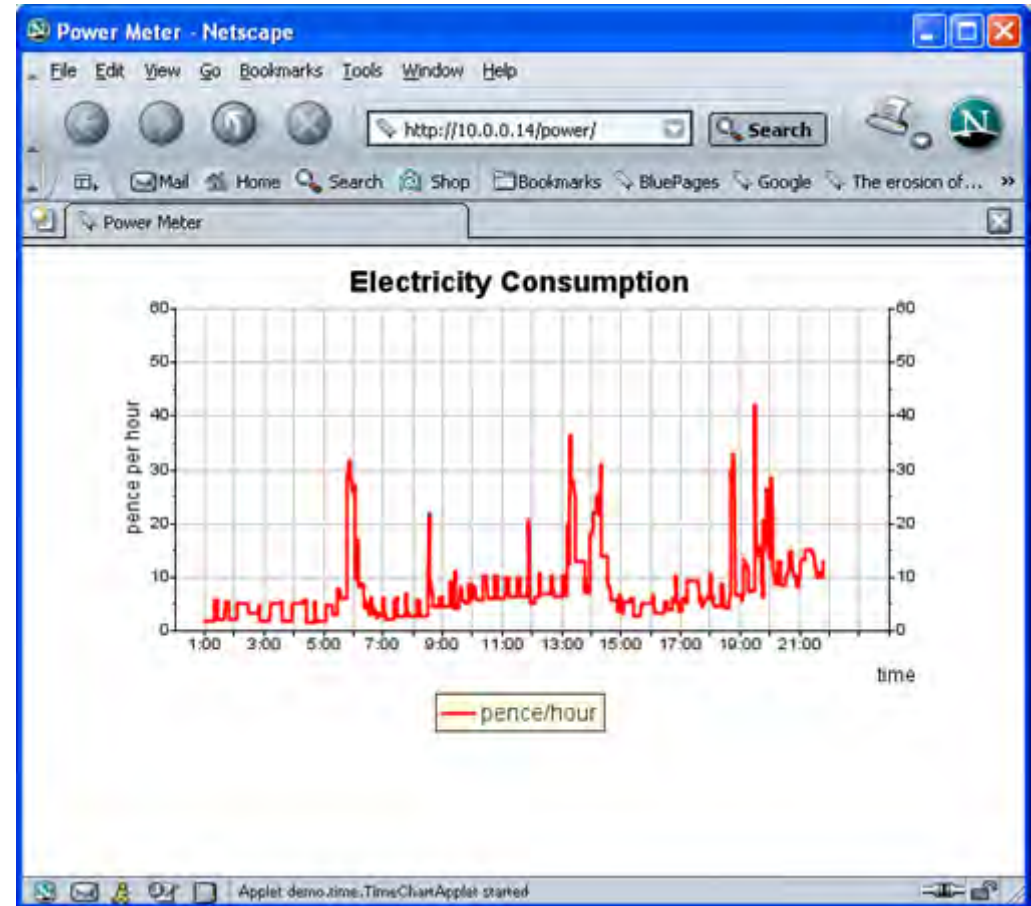
Daily Water Use



Meter Reading ** (litres)
00019786



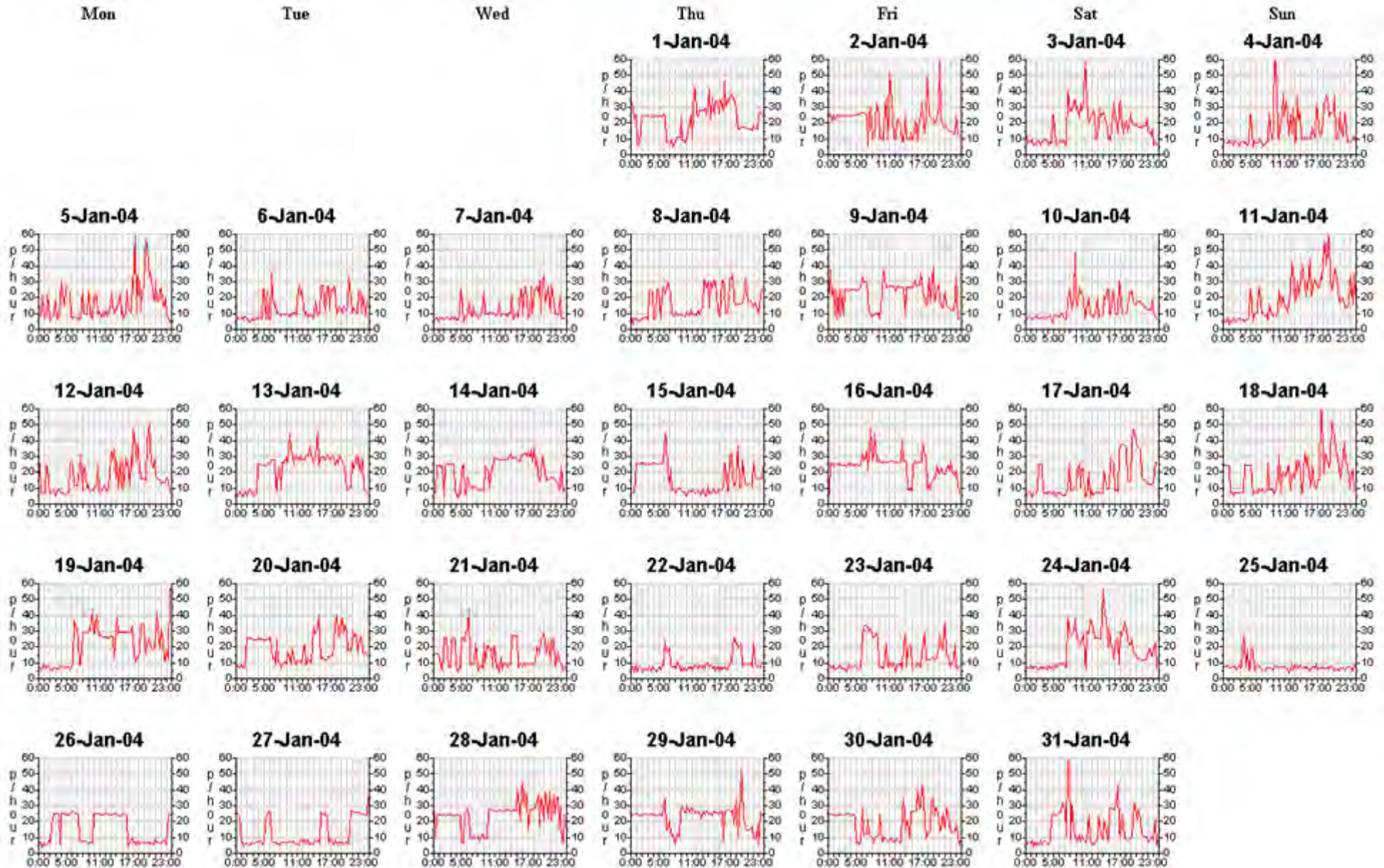
Electricity Meter

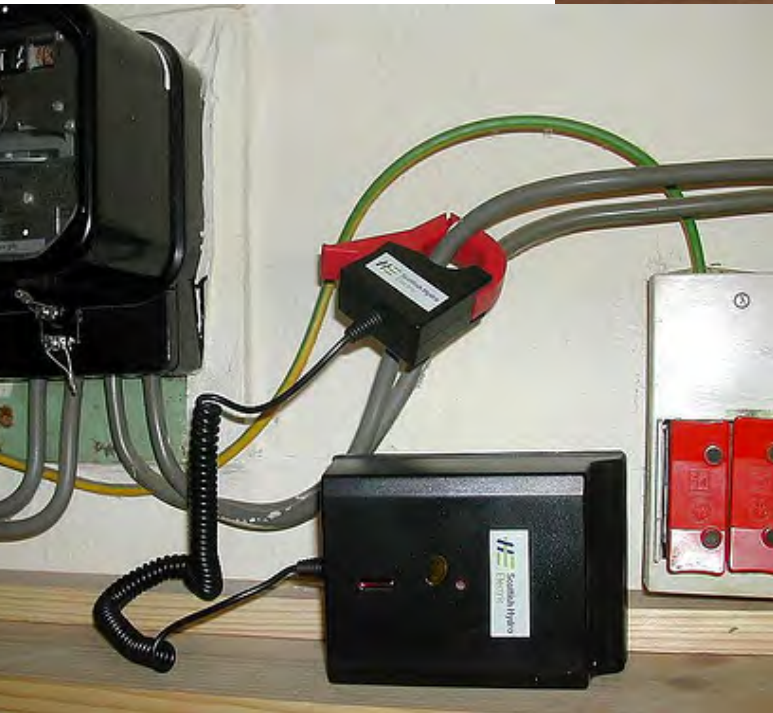


0-20p/hour – green
 20-40p/hour – amber
 40-60p/hour – red!



Power Consumption data from Andy's house Jan 04





Current Cost History - 2 Hourly Totals (kWh)

Current

Dashboard

Meters

History

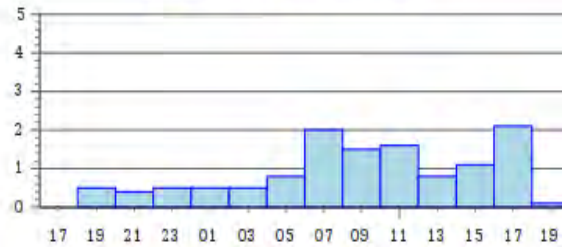
24 Hours

31 Days

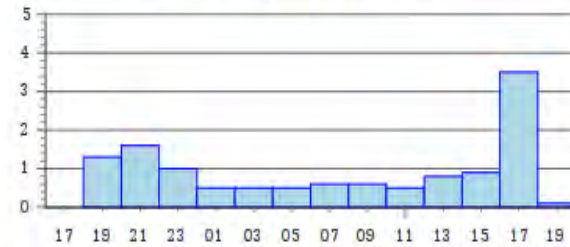
12 Months

4 Years

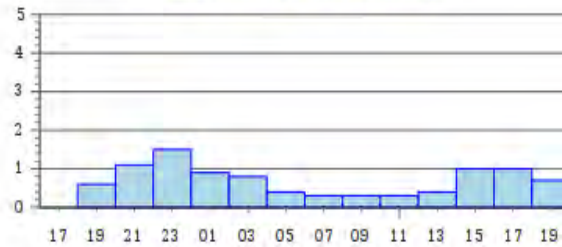
[map's usage over 24 hours](#)



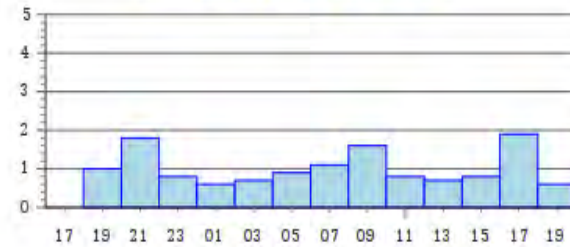
[markp's usage over 24 hours](#)



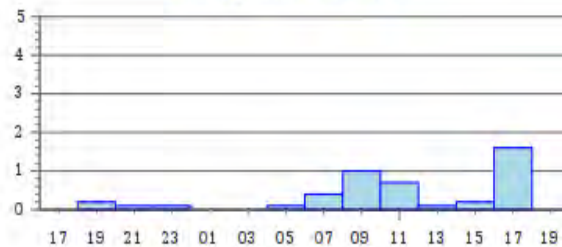
[johnmac's usage over 24 hours](#)



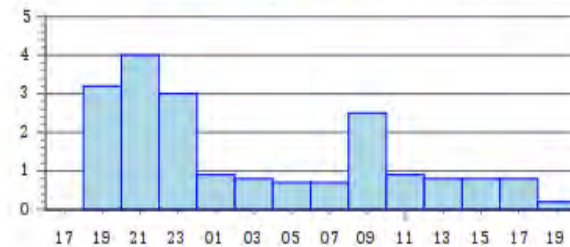
[mattc's usage over 24 hours](#)



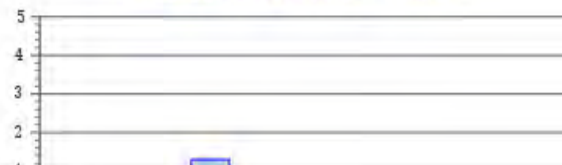
[it's usage over 24 hours](#)



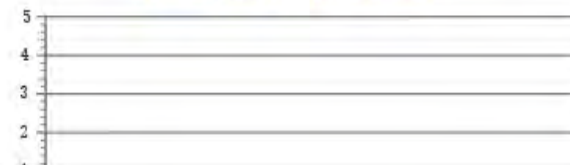
[SteveR's usage over 24 hours](#)



[Martin_H's usage over 24 hours](#)



[Petem's usage over 24 hours](#)



Home automation



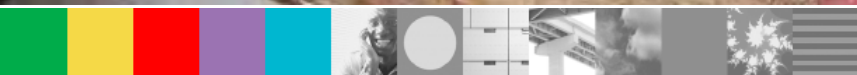
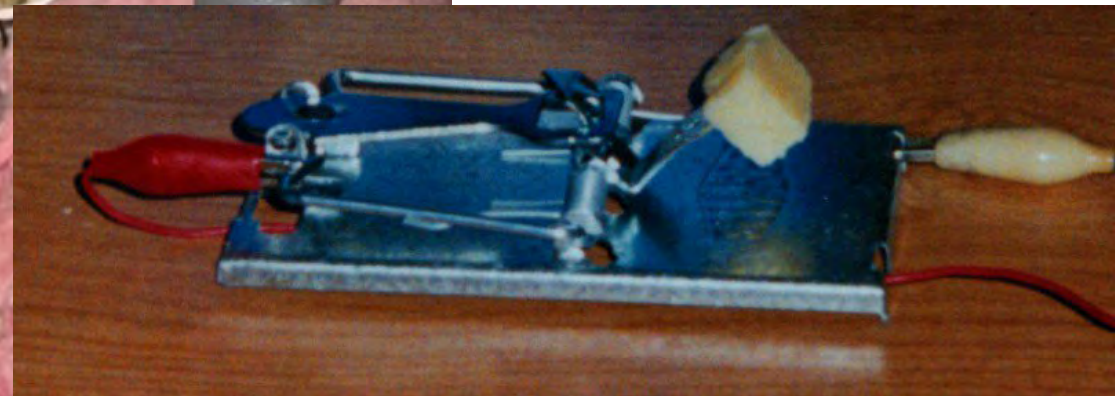
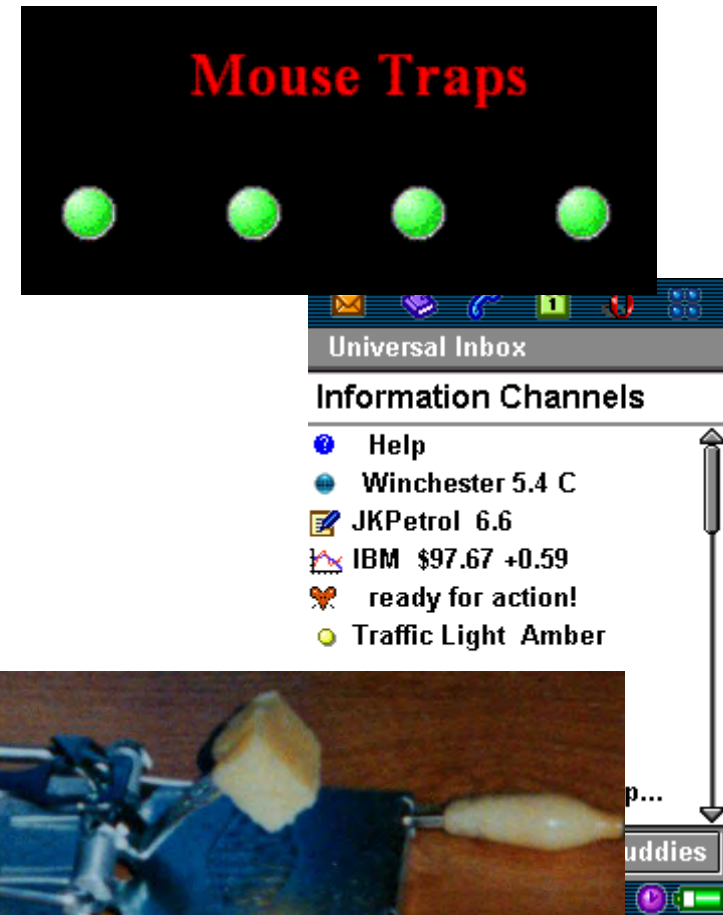




TXT the reindeer!



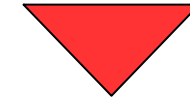
Electronic Mouse Traps



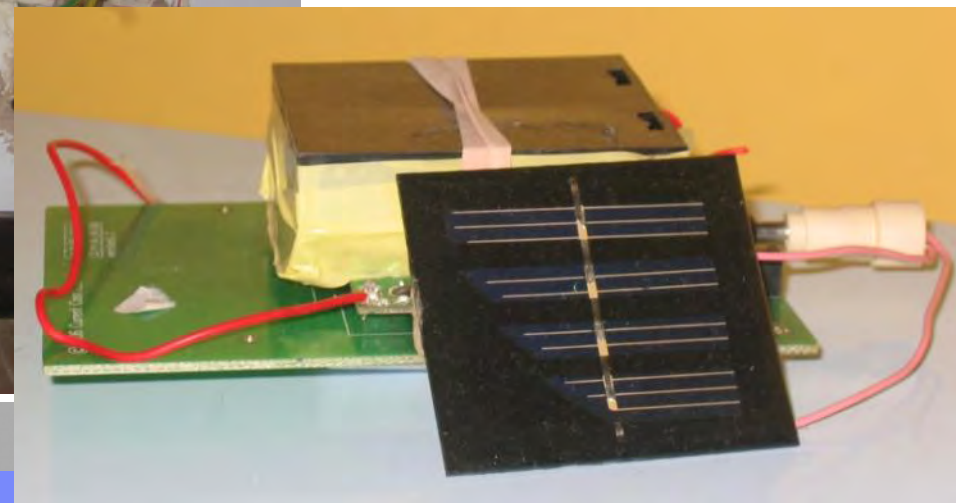
Power Monitoring TNG



time	15:25:57
info tmp	19.9
0 ch1	watts 6319
id	02212
2 ch1	watts 0
3 ch1	watts 292
5 ch1	watts 387
ch1	watts 8
8 ch2	watts 0
1 ch1	watts 0

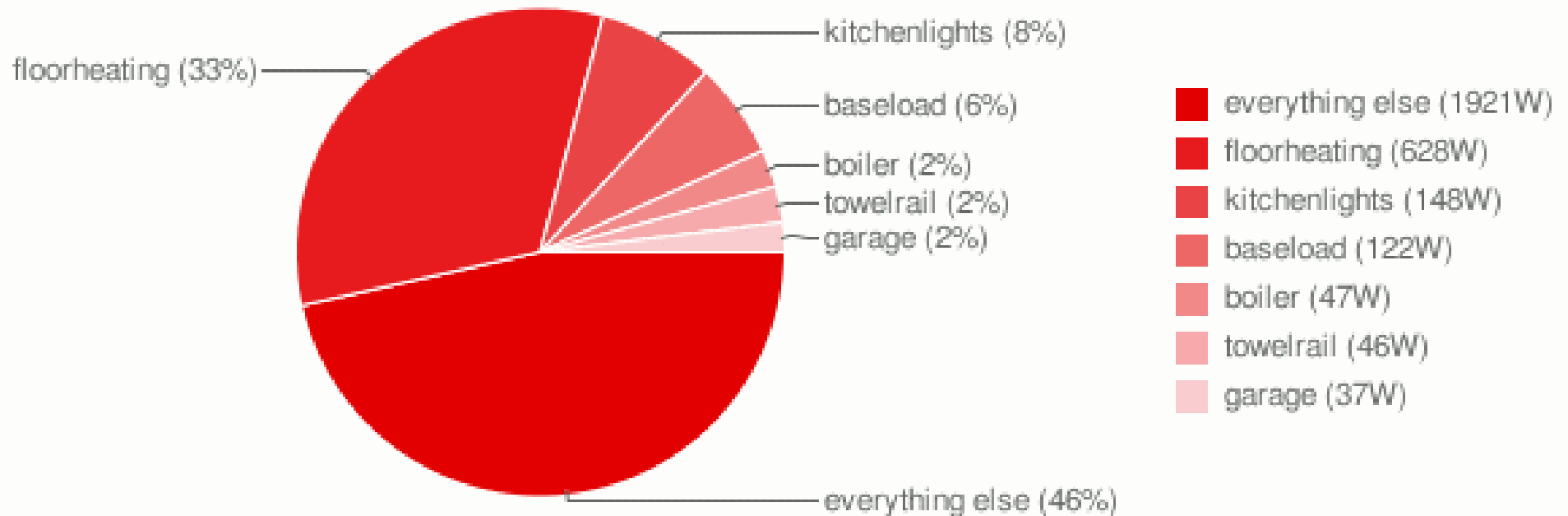


CC128 andy	32.0524522222222
boiler	0.648055555555555
garage	0.974749722222224
floorheating	2.56583333333333
kitchenlights	1.83373333333333
baseload	3.3223
reset andy	1236509216



The Power Pie

Power usage analysis for andy



Watt figures are the average power consumption since last reset on 8-Mar-09 (68 hours ago) - £1/Watt/Year !



The House That Tweets

Power
Water
Phone
Security
Lights/Electrical
Environment

the phone is ringing (Isle of Wight)

about 6 hours ago from web

Previous

With Others

fountain turned off [06:07 PM May 18, 2008](#) from web

fountain turned on [06:06 PM May 18, 2008](#) from web

the phone is ringing (mobile) [02:22 PM May 18, 2008](#) from web

outside lights turned off [11:26 PM May 17, 2008](#) from web

outside lights turned on [11:25 PM May 17, 2008](#) from web

outside lights turned off [11:22 PM May 17, 2008](#) from web

outside lights turned on [11:21 PM May 17, 2008](#) from web

the phone is ringing (Isle of Wight) [01:01 PM May 17, 2008](#) from web

electricity meter reading: 31650 KWH [12:48 PM May 17, 2008](#) from web

outside lights turned off [10:26 AM May 17, 2008](#) from web

outside lights turned on [10:26 AM May 17, 2008](#) from web

fountain turned off [10:26 AM May 17, 2008](#) from web

fountain turned on [10:26 AM May 17, 2008](#) from web

the phone is ringing (Isle of Wight) [10:03 AM May 17, 2008](#) from web

£30 of electricity used so far this month [10:03 AM May 17, 2008](#) from web

electricity meter reading: 31700 KWH [09:18 AM May 16, 2008](#) from web

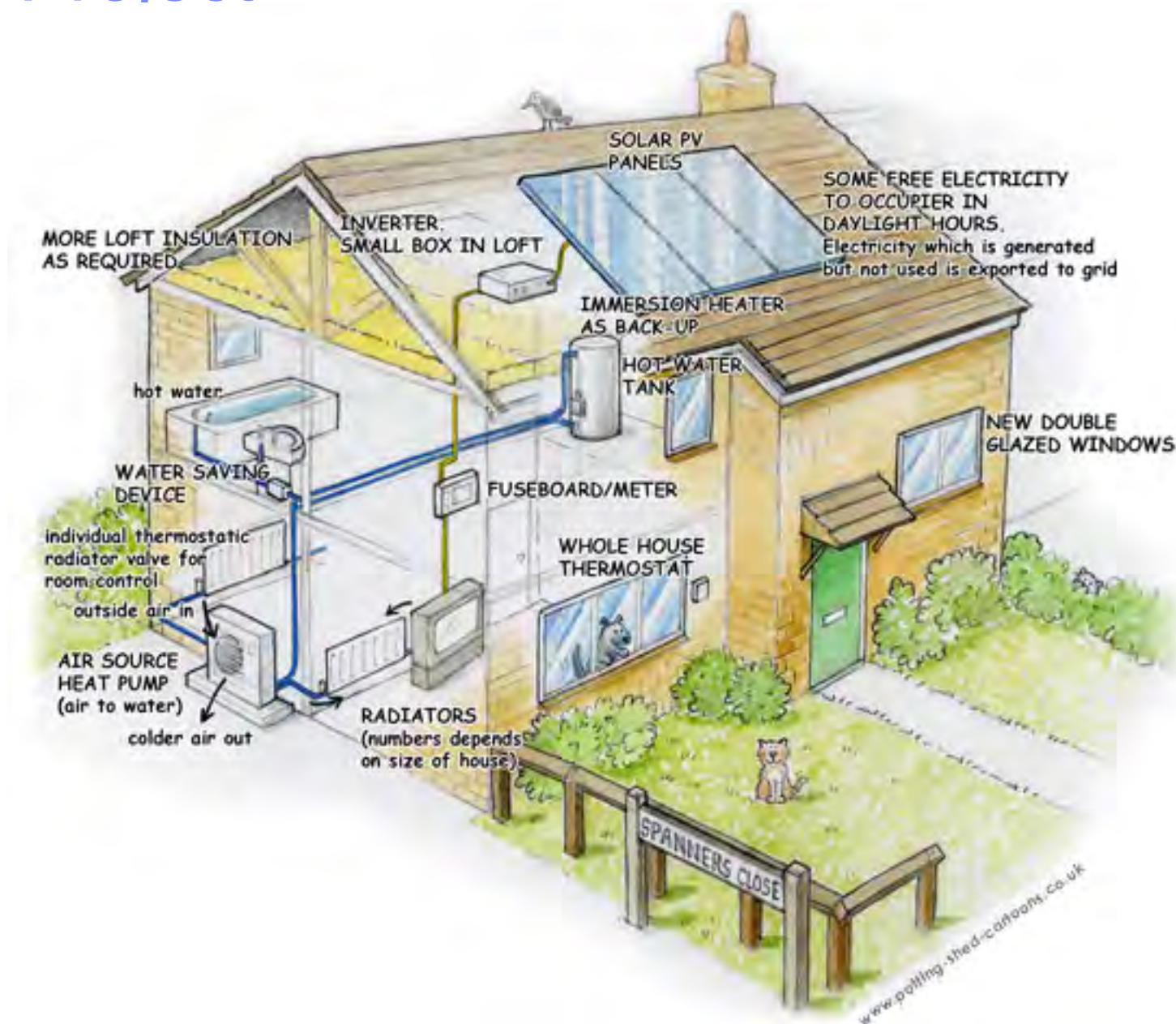
fountain turned on [09:11 AM May 16, 2008](#) from web

£25 of electricity used so far this month [06:22 AM May 16, 2008](#) from web

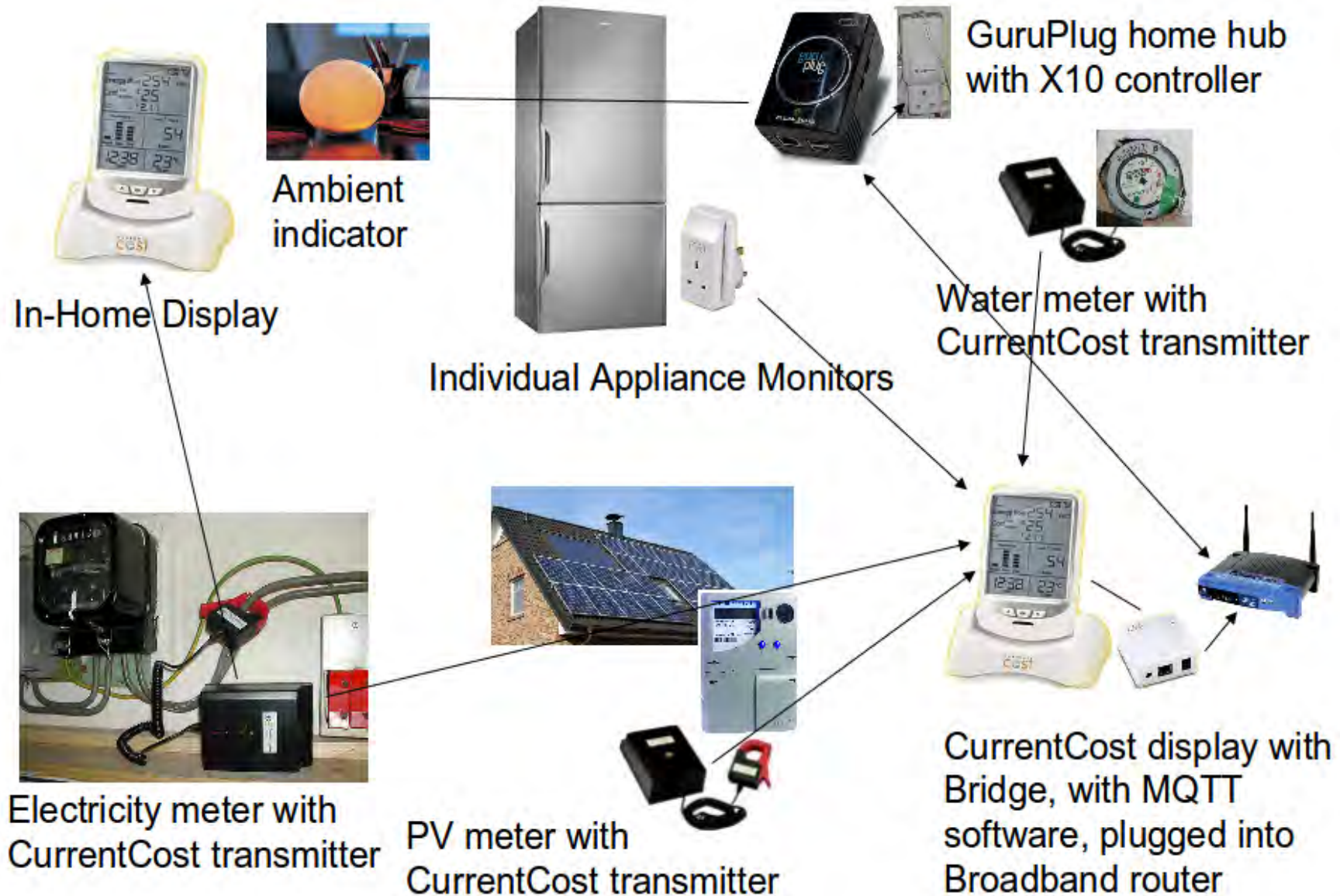
outside lights turned on [09:44 PM May 15, 2008](#) from web

bathroom heater turned on [09:23 PM May 15, 2008](#) from web

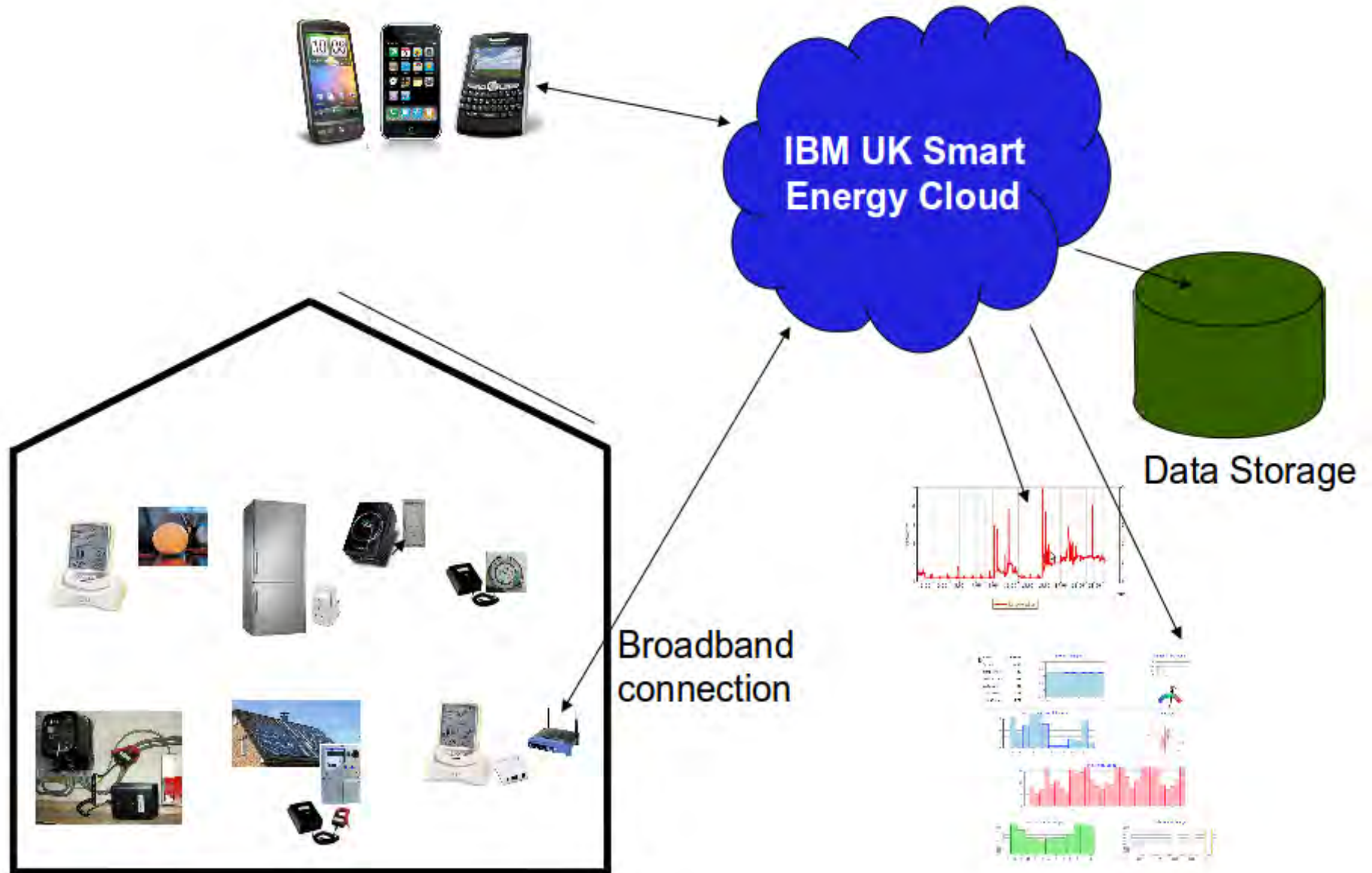
Chale Project



Chale Project



Chale Project

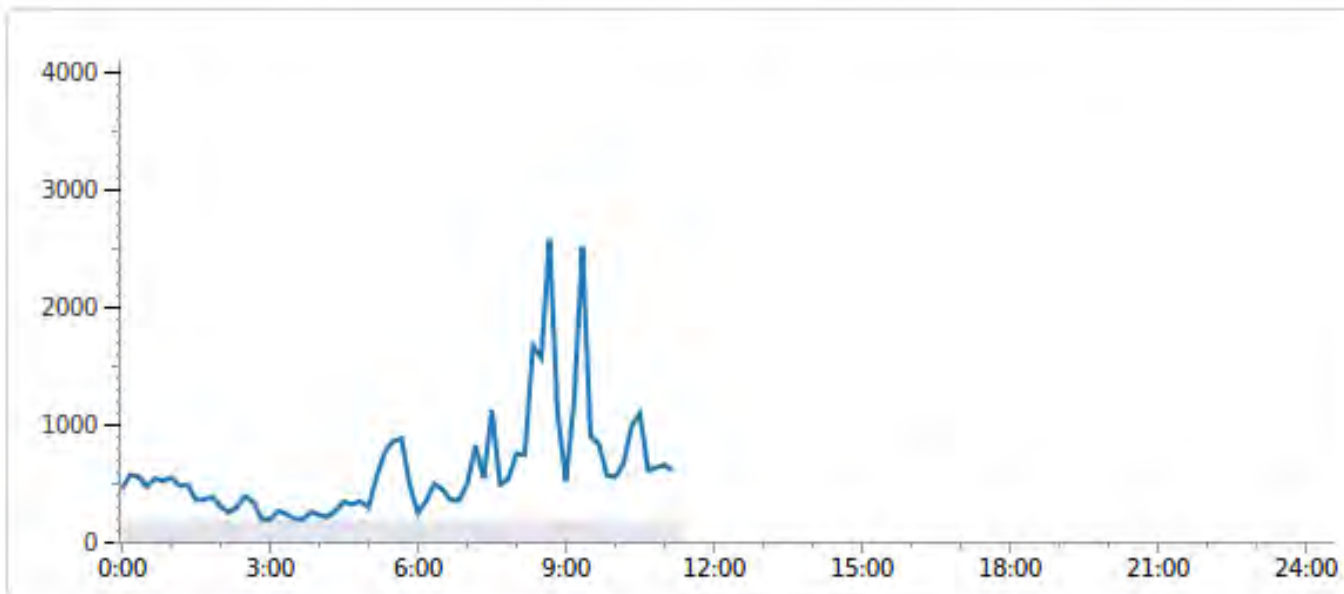


Chale Energy Portal

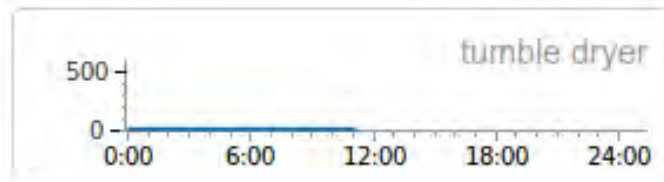
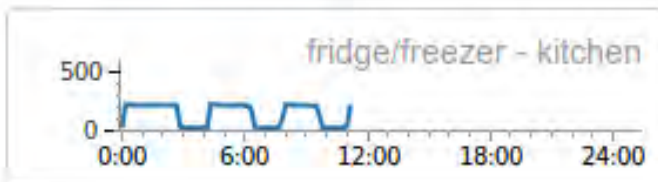


Hi, Andy. [home](#) - [settings](#) - [status](#) - [admin](#) - [logout](#)

Whole House Monday, 12th September, 2011



Appliances



Smart Grid



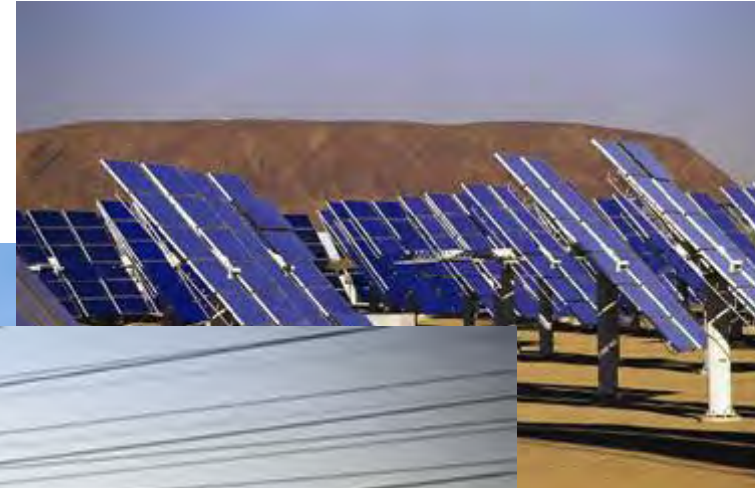
Smart Grid



Smart Grid



Smart Grid



Smart Grid





ecoisland
The hub of a sustainable future



Objects That Tweet

The image shows a screenshot of the Twitter homepage. At the top left is the Twitter logo. To the right is a language selection dropdown. Below the logo is a section titled "What is Twitter?" with three tabs: "What?", "Why?", and "How?". To the right of this section is a red button that says "Watch a video!". Below the "What is Twitter?" section is a large image featuring a yellow bird on a branch and a collage of tweets. Below the image is a paragraph describing Twitter as a service for friends, family, and co-workers. To the right of this paragraph is a sign-in form with fields for "user name or email address" and "password", a "Remember me" checkbox, and a "Sign In" button. Below the sign-in form is a link for "Forgot password?". At the bottom of the sign-in area is a green box with the text "Already using Twitter by SMS or IM? Click here." Below the main text is a green button that says "Get Started—Join!". At the bottom of the page are three testimonials in speech bubbles, each with a name and title. At the very bottom is a footer with copyright information and links for "About Us", "Contact", "Blog", "Downloads", "API", "Help", "Jobs", "TOS", and "Privacy".

Select Language ... ▾

What is Twitter?

What? Why? How?

▶ Watch a video!

Please sign in

user name or email address:

password:

Remember me **Sign In »**

Forgot password? [Click here.](#)

Already using Twitter by SMS or IM? [Click here.](#)

Twitter is a service for friends, family, and co-workers to communicate and stay connected through the exchange of quick, frequent answers to one simple question: **What are you doing?**

Get Started—Join!

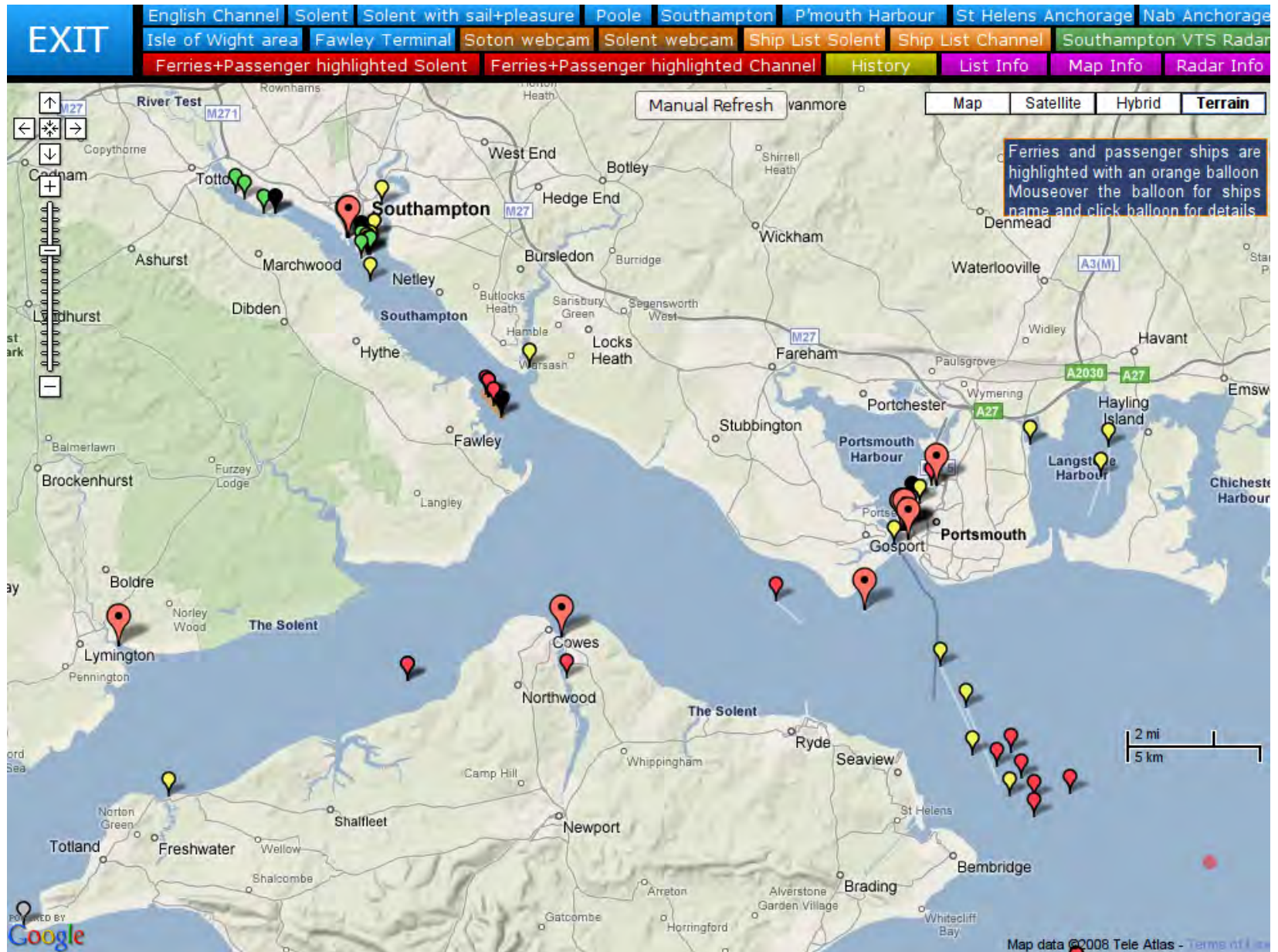
Twitter is the first thing on the web that I've been excited about in ages.
Jason Kottke, Blogger

When I first started doing it, I thought, 'geez, not another website to worry about updating and checking', but now I'm glad I did it.
point_chevalier, livejournaler

Twitter is on its way to becoming the next killer app.
 TIME Magazine

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Live Ferry Tracking





redjets

twitter.com/redjets

Follow

00:40 - Red Jet 3 has arrived at Southampton

about 2 hours ago from web

Previous

00:18 - Red Jet 3 is leaving West Cowe

00:14 - Red Jet 3 has arrived at West C

23:49 - Red Jet 3 is leaving Southamptc

23:38 - Red Jet 3 has arrived at Southa

23:17 - Red Jet 3 is leaving West Cowe

23:09 - Red Jet 3 has arrived at West C

22:47 - Red Jet 3 is leaving Southamptc

22:39 - Red Jet 3 has arrived at Southa

21:38 - Red Jet 1 has arrived at Southa

21:08 - Red Jet 3 has arrived at Southa

20:19 - Red Jet 3 is leaving Southamptc

20:17 - Red Jet 1 is leaving West Cowe

20:14 - Red let 1 has arrived at West C



wightlink_lym

Follow

15:20 - Cenwulf has arri
about 10 hours ago from web

14:45 - Cenred has arriv
about 10 hours ago from web

14:44 - Cenred is leavin
about 10 hours ago from web

14:34 - Cenred has arriv
about 10 hours ago from web

14:00 - Cenwulf is leavir
about 11 hours ago from web

13:34 - Cenwulf has arri



red_ferries

Follow

16:02 - Red Falcon has arrived at East Cowes
4:02 PM Feb 3rd from web

15:58 - Red Osprey has arrived at Southampton
3:58 PM Feb 3rd from web

15:48 - Red Eagle has arrived at Southampton
3:49 PM Feb 3rd from web

15:45 - Red Eagle is leaving Southampton





Sign Up

● Service Status ▾

Quick Navigation ▾

- Why Choose Us
- Buy Online
- Ferry Travel
- Travel Connections
- Places to Stay
- Isle of Wight Guide
- Freight and Parcels
- Corporate
- My Red Funnel

Search Website Your Basket is Empty ▾

Home → Ferry Travel → Red Jet Hi-Speed service → Red Jet Hi-Speed Timetable

- Ferry Routes
- Red Jet Hi-Speed service
 - Timetable
 - Fares/Offer to the IoW
 - Fares/Offer from the IoW
 - Ticketing & Check-in
 - Terminal Facilities
 - Luggage, Pets & Bicycles
 - Hazardous Goods, Parcels
 - Accessibility Information
 - Smoking Policy
 - Hi-Speed Fleet
- Vehicle Ferry service
- Service status
- Frequent travellers
- Corporate/Business Travel
- Cosch & Group Travel
- Schools Groups and Clubs
- Travel Agents & Multiples
- Isle of Wight Travel Trade

Red Jet Hi-Speed Timetable



Red Jet Timetable - Southampton <> West Cowes (Isle of Wight)

Current Live Positions

redjets: 19:48 - Red Jet 4 is leaving West Cowes
 redjets: 19:42 - Red Jet 4 has arrived at West Cowes
 redjets: 19:38 - Red Jet 3 has arrived at Southampton
 redjets: 19:19 - Red Jet 4 is leaving Southampton



From Southampton T2

	1 Mar to 27 Mar 09	28 Mar to 30 Oct 09	31 Oct to 23 Dec 09	Christmas Eve 24 Dec 09	Boxing Day 26 Dec 09	27 Dec to 30 Dec 09	New Year's Eve 31 Dec 09	New Year's Day 1 Jan 10	2 Jan to 4 Jan 10
0500hrs	0545 _{MF}	0545 _{MF}	0545 _{MF}	0545		0545 _{MF}	0545		0545 _{MF}
0600hrs	0615 _{MF} 0645	0615 _{MS} 0645	0615 _{MF} 0645	0615 0645		0615 _{MF} 0645	0615 0645		0615 _{MF} 0645
0700hrs	0715 _{MF} 0745	0715 _{NBH} 0745	0715 _{MF} 0745	0715 0745		0715 _{MF} 0745	0715 0745		0715 _{MF} 0745
0800hrs	0815 _{MF}	0815 _{NBH}	0815 _{MF}			0815 _{MF}	0815		0815 _{MF}

More Summer Sailings

From Mon 30 March the Red Jet service will run every 30 mins during the day, 7 days a week making it the most frequent high speed service across the Solent.

Fastest route to/from London Waterloo

The Red Jet Hi-Speed service and CityLink bus service are timed to connect with SW Trains London Waterloo services

Rail connections

CityLink FREE Bus

In Southampton the FREE CityLink service runs every 15 minutes. It connects the Red Jet

As it was April 1st...

FUNNEL

Sign Up ● Service Status ▾ Quick Na

🛒 Your Basket is Empty ▾
👤 Login to My

[Ferry Travel](#) → [Red Jet Hi-Speed service](#) → [Red Jet Hi-Speed Timetable](#)

Routes

- Hi-Speed service
- Timetable
- Offers to the IoW
- Offers from the IoW
- Booking & Check-in
- Facilities
- Cars, Pets & Bicycles
- Hazardous Goods, Parcels
- Liability Information
- Cancellation Policy
- Ferry Fleet
- Ferry service
- Service status

Red Jet Hi-Speed Timetable

Red Jet Timetable - Southampton <-> West Cowes (Isle of Wight)

Current Live Positions

- redjets: 12:55 - Red Jet 4 has arrived at Milton Keynes #aprilfools
- redjets: 12:48 - Red Jet 1 is leaving Southampton
- redjets: 12:45 - Red Jet 3 is leaving West Cowes
- redjets: 12:40 - Red Jet 3 has arrived at West Cowes

From Southampton T2

More Summer

From Mon 30 March service will run every day during the day, 7 days a week making it the most



my red funnel

Login email

Password

Login



Register now | Forgotten password | Manage my account

Remember me

Why Choose Us

Buy Online

Ferry Travel

Travel Connections

Places to Stay

Isle of Wight Guide

Freight and Parcels

Corporate

My Red Funnel

Search Website

Go

Service Status

Your Basket is Empty

I live on the Mainland Island

Home → Isle of Wight Ferry Travel → Service operating status → Red Funnel Vessel Positions

Latest Offers

Ferry Routes

Red Jet Hi-Speed service

Vehicle Ferry service

Frequent Travellers

Healthcare Travel Scheme

Business Solutions/Login

Service Status

Vessel Positions - Live

Weather Forecast

Bestival Travel Information

Onboard Red Funnel

Ferry Travel FAQs

Conditions of Carriage

The position of Red Funnel's fleet can be seen below, the map will automatically update every 90 seconds.



Twittering ferries

Follow them on Twitter! Just bookmark the following links on your blackberry or mobile phone to see where each ship is in the Solent.

Red Jets →

<http://twitter.com/redjets>

Vehicle Ferries →

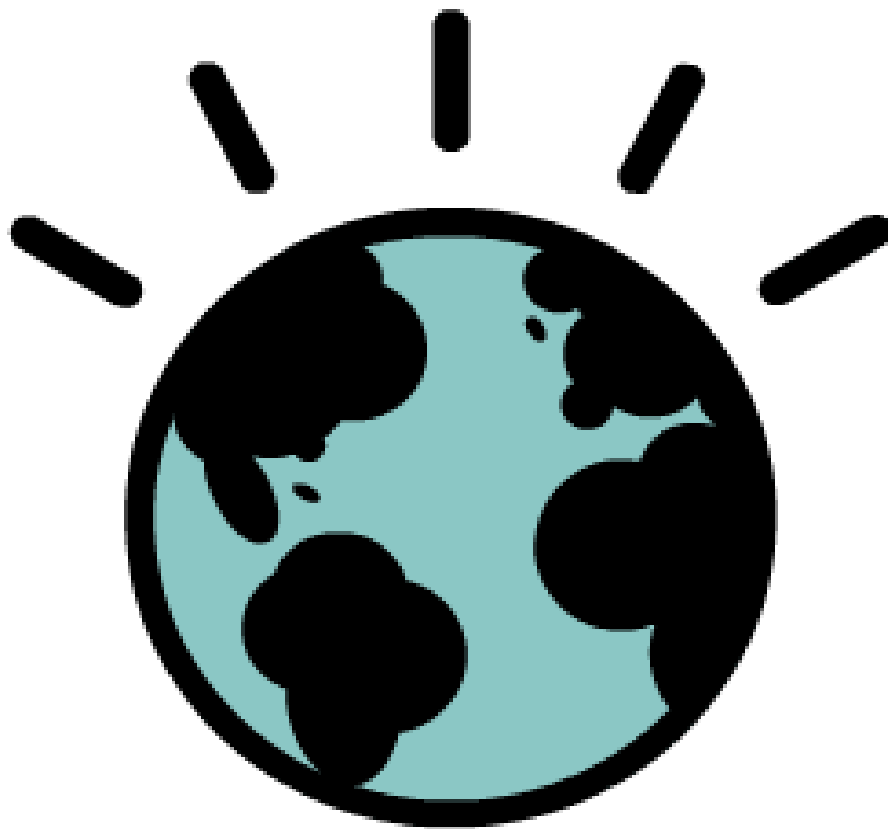
http://twitter.com/red_ferries

Red Jet Fleet

- Red Jet 3
- Red Jet 4
- Red Jet 5

Vehicle Ferry Fleet

Let's invent a Smarter Planet!



andysc @uk.ibm.com

@andysc

