

# Kemuri

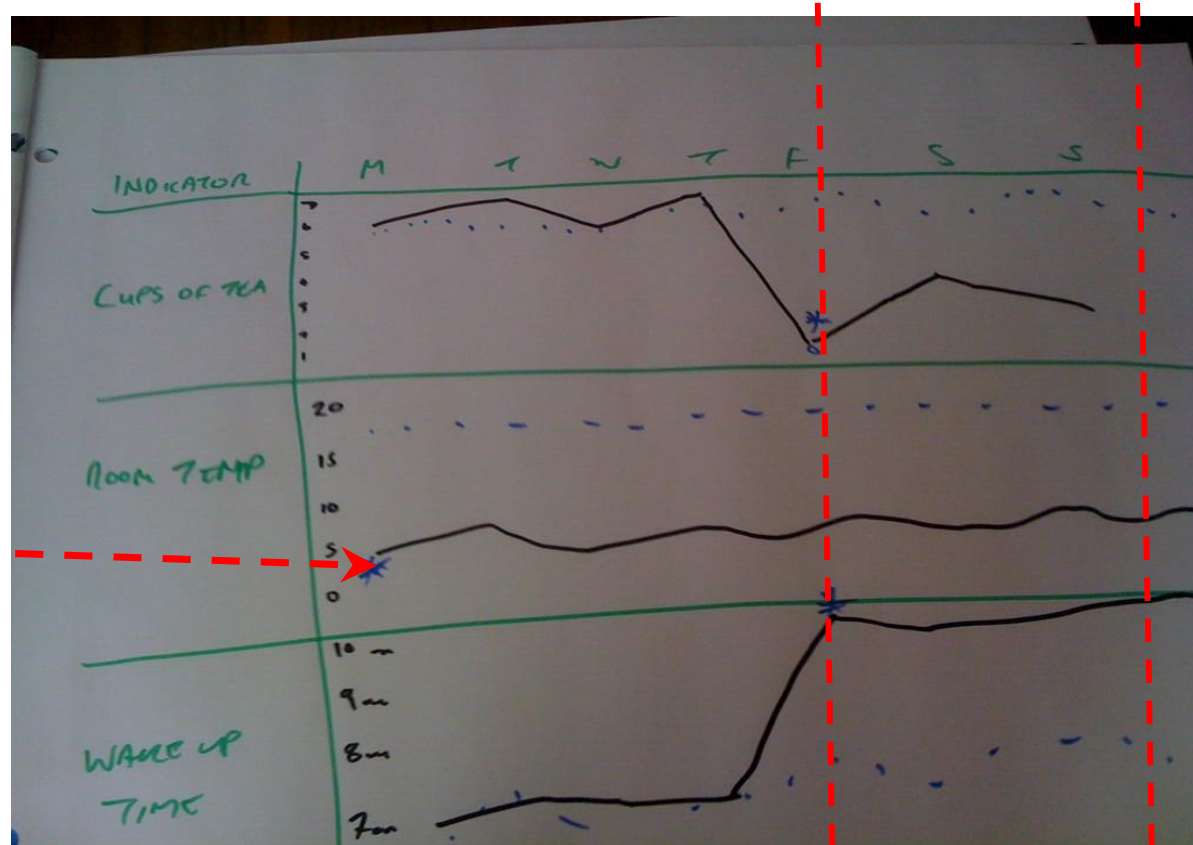
## Social Care



**Wellbeing Monitor**  
**(Warm, drinking tea & mobile)**



# Granny's True Story



Start:  
No heating

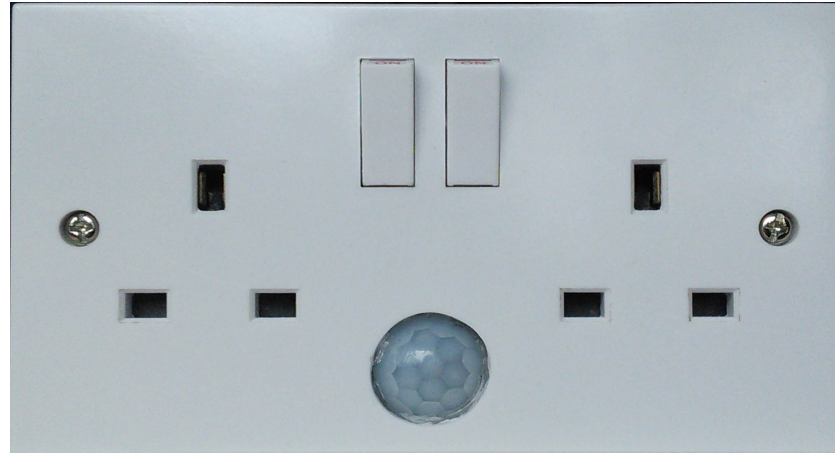
Risk of Hypothermia, dehydration  
and immobility

Not enough  
drinks

Ambulance  
called

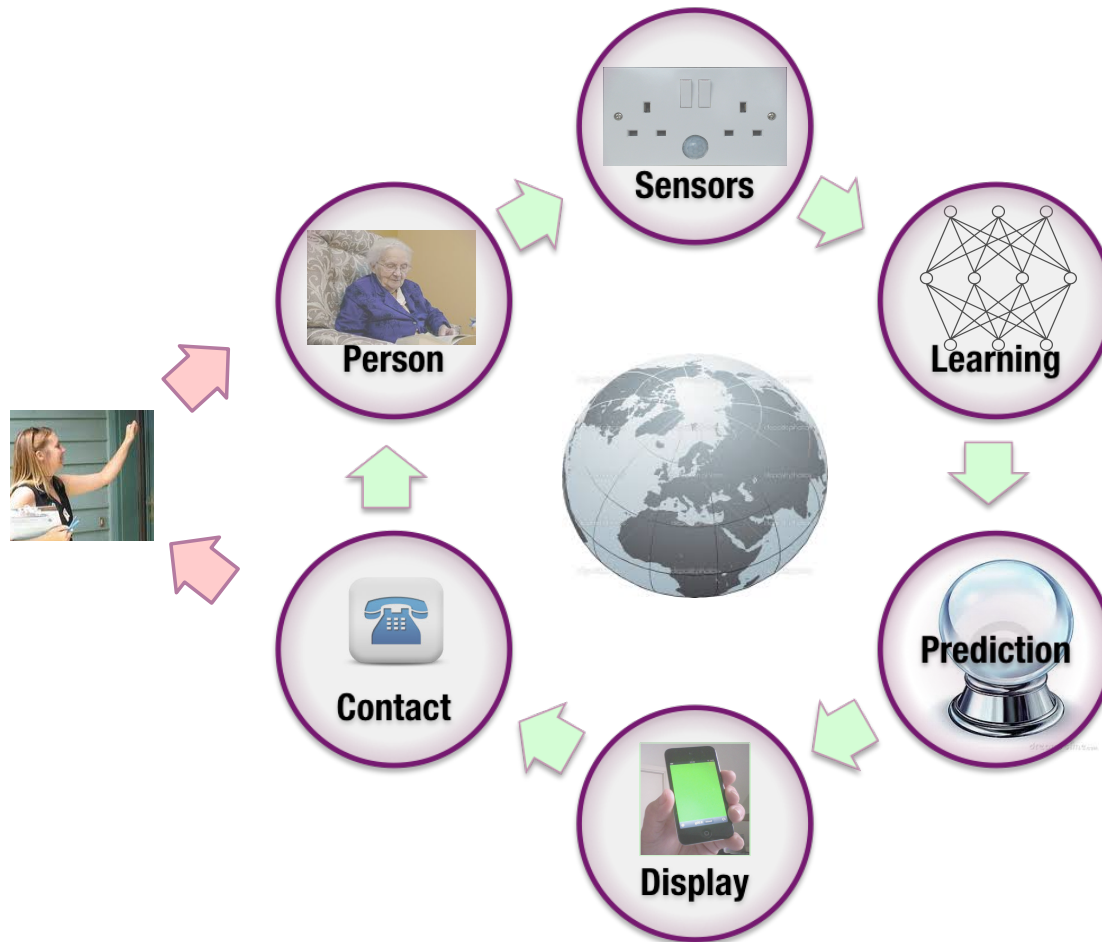


# KemuriSense: Smart Power Socket



- Replace a socket in the kitchen, where the kettle is used
- Five sensors (ambient temperature, power usage, motion, humidity, power supply)
- No need for broadband, uses GSM mobile telecommunications
- Reports power outage using battery back-up
- UK patent applied for

# Social Care Planning

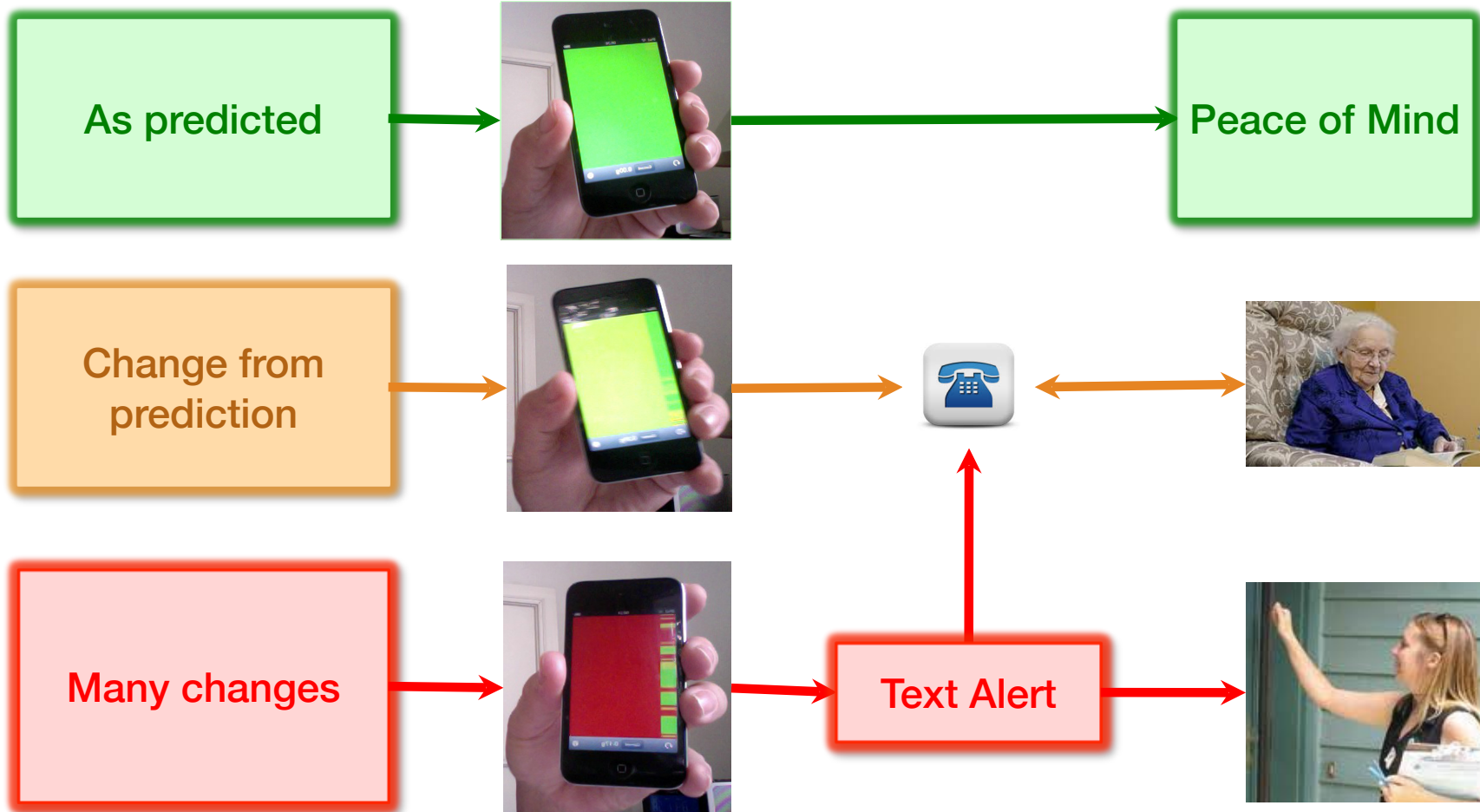


**People and Technology must work together**

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# Predictive Monitoring

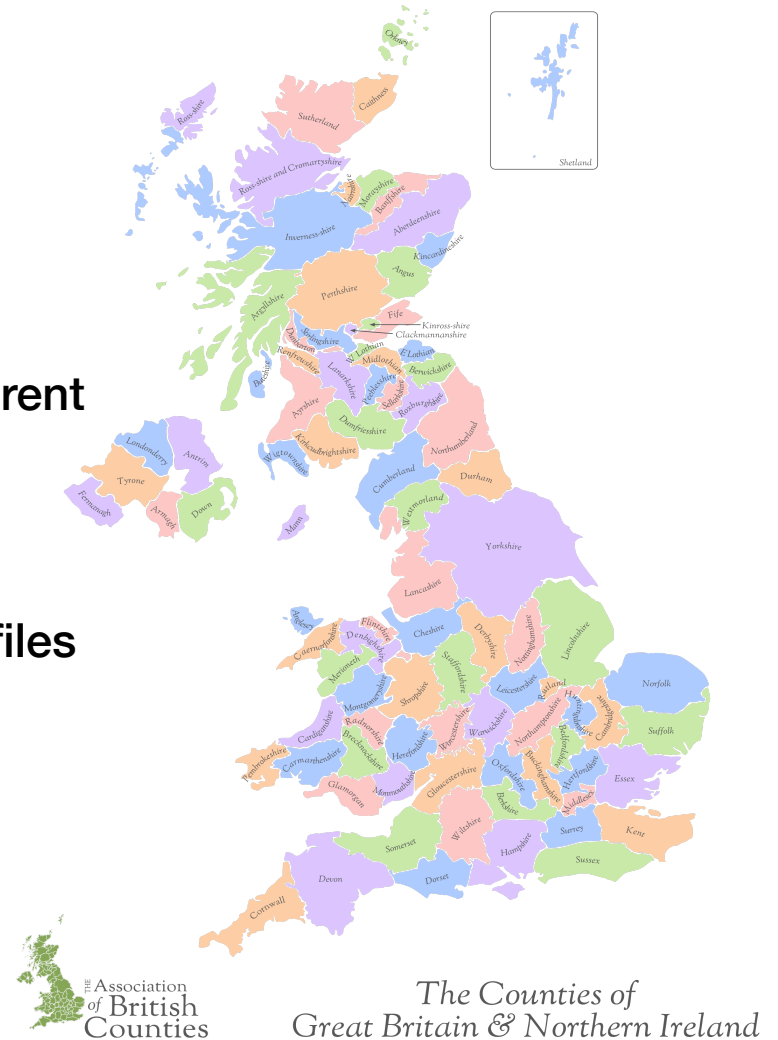


**Single Wellbeing Indicator - checked in a second**



# National Roll-Out

- Prove the value of passive predictive monitoring by family and carers
- Pilot in Shire Counties, Metropolitans, Unitaries and London Boroughs
- Install 100 units in each authority with range of different types of vulnerable people
- Educate families and carers
- Operate for 6 months to 12 months
- Analyse results with control groups with similar profiles
- Publish results for Local Authorities, Housing Associations and other care agencies
- Ready for Care Act implementation in 2016



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# Value Proposition



1. **State-funded adult social care (people with < £22,000 assets)**
  - £4 billion and rising numbers
  - Average £22,000 per year in residential care
  - One month saved in residential care = 3 years of KemuriSense



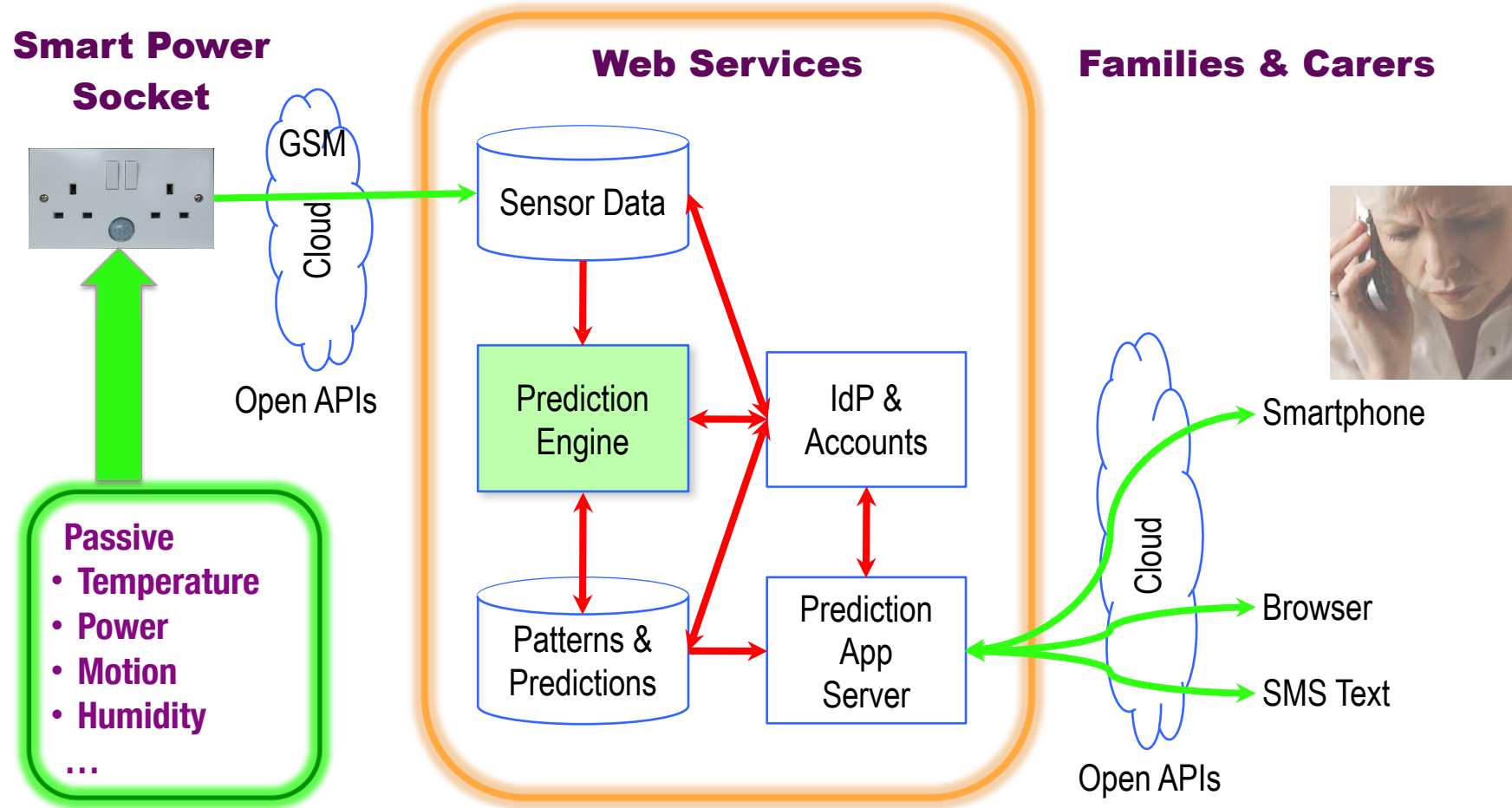
2. **Self-Funded adult social care (people with > £22,000 assets)**
  - 2.5 million people older than 75 living alone
  - Busy families need daily peace of mind



3. **Sheltered housing care**
  - Over 550,000 properties with warden support
  - Efficiency from instant wellbeing monitoring



# Wellbeing Platform – Social Care



**Passive monitoring = no life style change**





# Development Programme

## Social Care

- o Proof of Concept in progress
- o Development of Prototype in 2015
- o Mass production and social care deployment in 2016
  
- o But that's not the end of the story ....

## General Purpose Smart Power Sockets

- o Multiple sensors
- o Powerline and broadband communications
- o Actuators for power switches
- o Samples for new products for sale in 2015



# Kemuri

Ubiquity



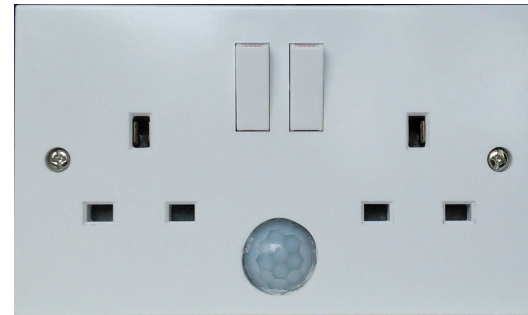
**KemuriSense in homes, offices and businesses**



# KemuriSense: Smart Power Socket

What could be simpler?

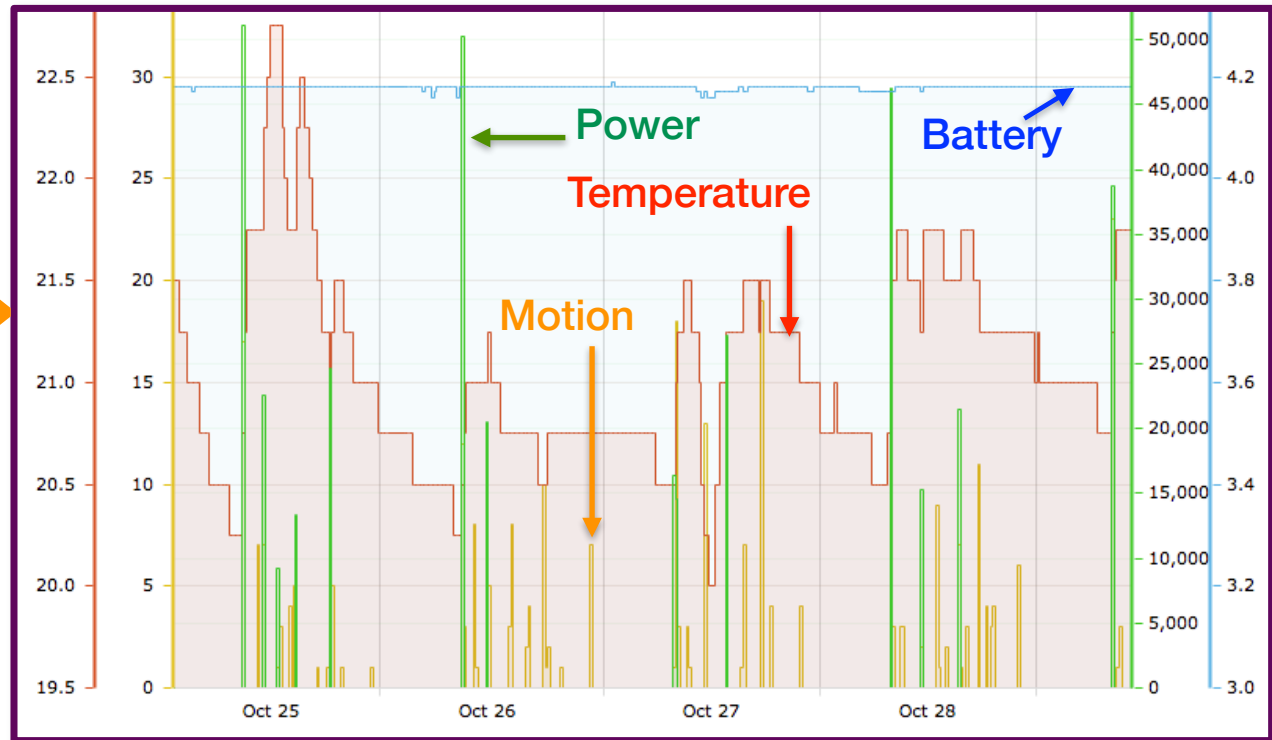
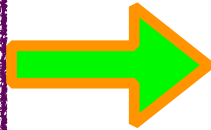
Collect data for social care, power saving, security and building control applications.



- Ambient temperature, power usage, motion, humidity, power supply
- Rapid installation with mobile phone signal
- Innovate UK awarded funding for a Proof of Concept
- UK patent applied for

# KemuriSense: Raw Data Visualisation

```
{:timestamp #inst "2014-10-19T14:32:06.820000000-00:00", :seconds_ago 0, :active 1, :value "27.75", :type "temperature", :device_id "4", :id 311}{:timestamp #inst "2014-10-19T14:32:22.200000000-00:00", :seconds_ago 0, :active 1, :value "97", :type "motion", :device_id "4", :id 312}{:timestamp #inst "2014-10-19T14:32:38.584000000-00:00", :seconds_ago 0, :active 1, :value "4.17V", :type "power", :device_id "4", :id 313}{:timestamp #inst "2014-10-19T14:45:04.805000000-00:00", :seconds_ago 0, :active 1, :value "27.75", :type "temperature", :device_id "4", :id 314}{:timestamp #inst "2014-10-19T14:45:19.732000000-00:00", :seconds_ago 0, :active 1, :value "97", :type "motion", :device_id "4", :id 315}{:timestamp #inst "2014-10-19T14:45:34.694000000-00:00", :seconds_ago 0, :active 1, :value "4.17V", :type "power", :device_id "4", :id 316}{:timestamp #inst "2014-10-19T15:01:15.925000000-00:00", :seconds_ago 0, :active 1, :value "28.00", :type "temperature", :device_id "4", :id 317}{:timestamp #inst "2014-10-19T15:01:31.212000000-00:00", :seconds_ago 0, :active 1, :value "97", :type "motion", :device_id "4", :id 318}{:timestamp #inst "2014-10-19T15:01:46.612000000-00:00", :seconds_ago 0, :active 1, :value "4.17V", :type "power", :device_id "4", :id 319}{:timestamp #inst "2014-10-19T15:17:28.550000000-00:00", :seconds_ago 0, :active 1, :value "27.75", :type "temperature", :device_id "4", :id 320}{:timestamp #inst "2014-10-19T15:17:43.951000000-00:00", :seconds_ago 0, :active 1, :value "98", :type "motion", :device_id "4", :id 321}{:timestamp #inst "2014-10-19T15:17:59.344000000-00:00", :seconds_ago 0, :active 1, :value "4.17V", :type "power", :device_id "4", :id 322}{:timestamp #inst "2014-10-19T15:33:41.650000000-00:00", :seconds_ago 0, :active 1, :value "27.75", :type "temperature", :device_id "4", :id 323}
```



- Collect raw sensor data in time series database
- Transform into bar charts
- Input for pattern detection and predictive analysis



# Application Opportunities

## Predictive Power Purchasing

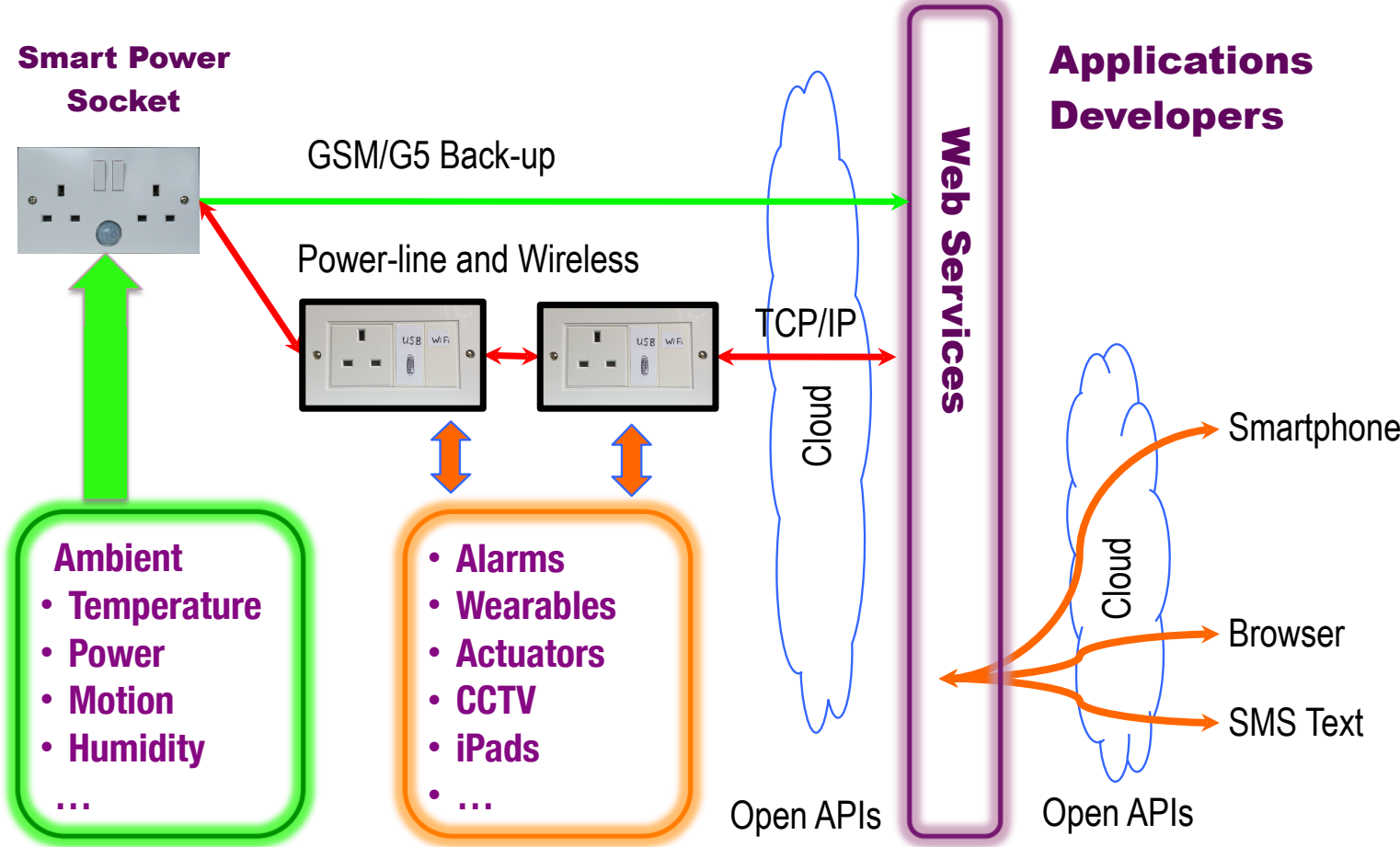
- Weather forecast to predict lower wind prices
- Schedule refrigeration and battery charging
- Schedule pumping
- Help to balance electricity supply and demand



## Building Control

- Measure temperature, humidity, motion and power
- Predict zones for reducing aircon demand
- Supplement security measures
- Reduce services cost

# Ubiquity Platform



Innovate with **KemuriSense APIs**





## Vision



- Homes have at least one smart power socket
- Offices control buildings with a network of smart power sockets
- Businesses monitor ambient conditions and power from a smart power socket and actuate equipment remotely
- White goods, refrigeration units and electric car chargers have integral smart power controllers
- Smart sockets are a global commodity - a market for billions



# Contact



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