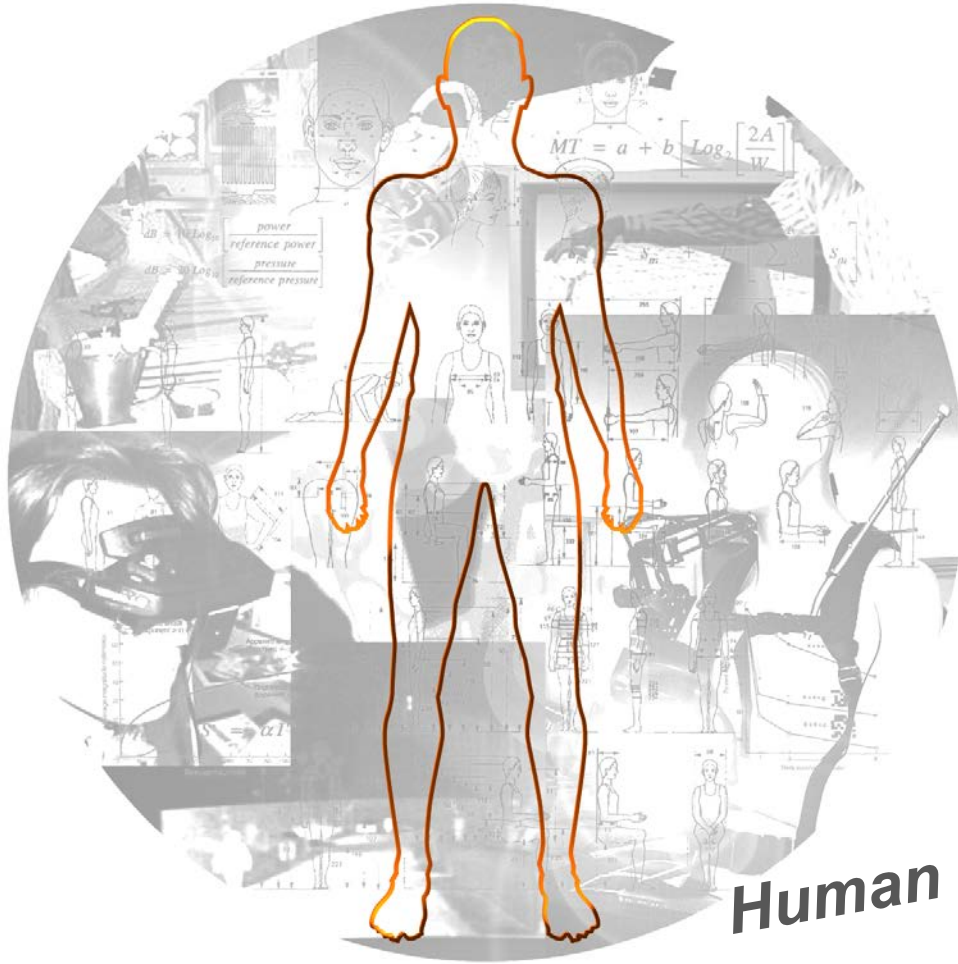


# Sixth Sense Design



Human Centred Design Institute  
Prof. Joseph Giacomin  
June 6<sup>th</sup> 2013

# Doubt...



Probably not the way to achieve disruptive behavioural change...

# Thoughts...

- Recent rapid technological progress has surpassed the human evolutionary ability to adapt.
- From a phenomenological perspective things like as air pollution, water pollution, water table level, electrosmog, heat and energy are “ghosts” which are not directly perceivable by people.
- It would appear reasonable that some part of the lack of human engagement with the “ghosts” may be attributable to the inability to directly perceive the physics involved.

# Suggestion...

A “sixth sense” may be needed to facilitate engagement and stimulate learning.



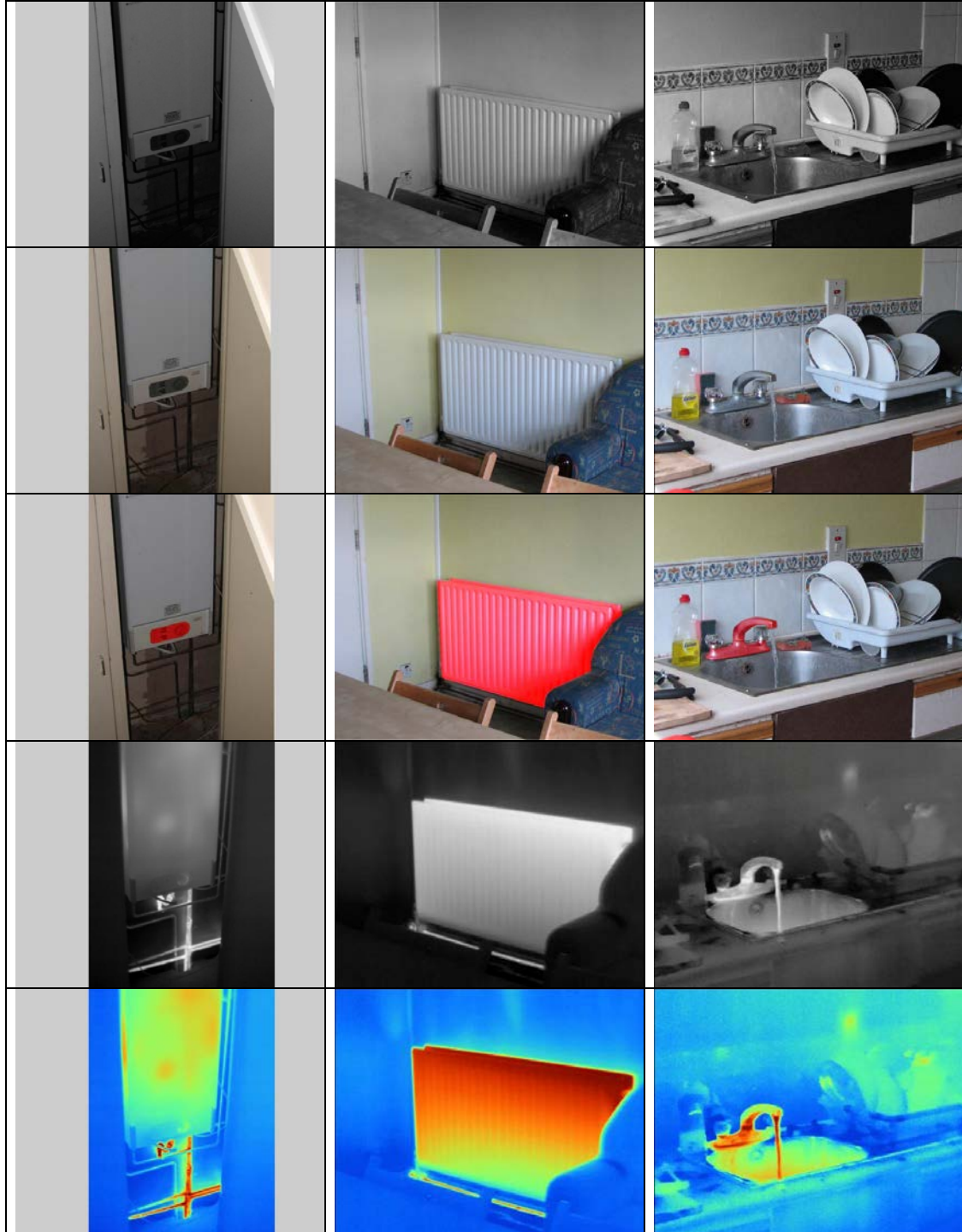
# Lessons From History...

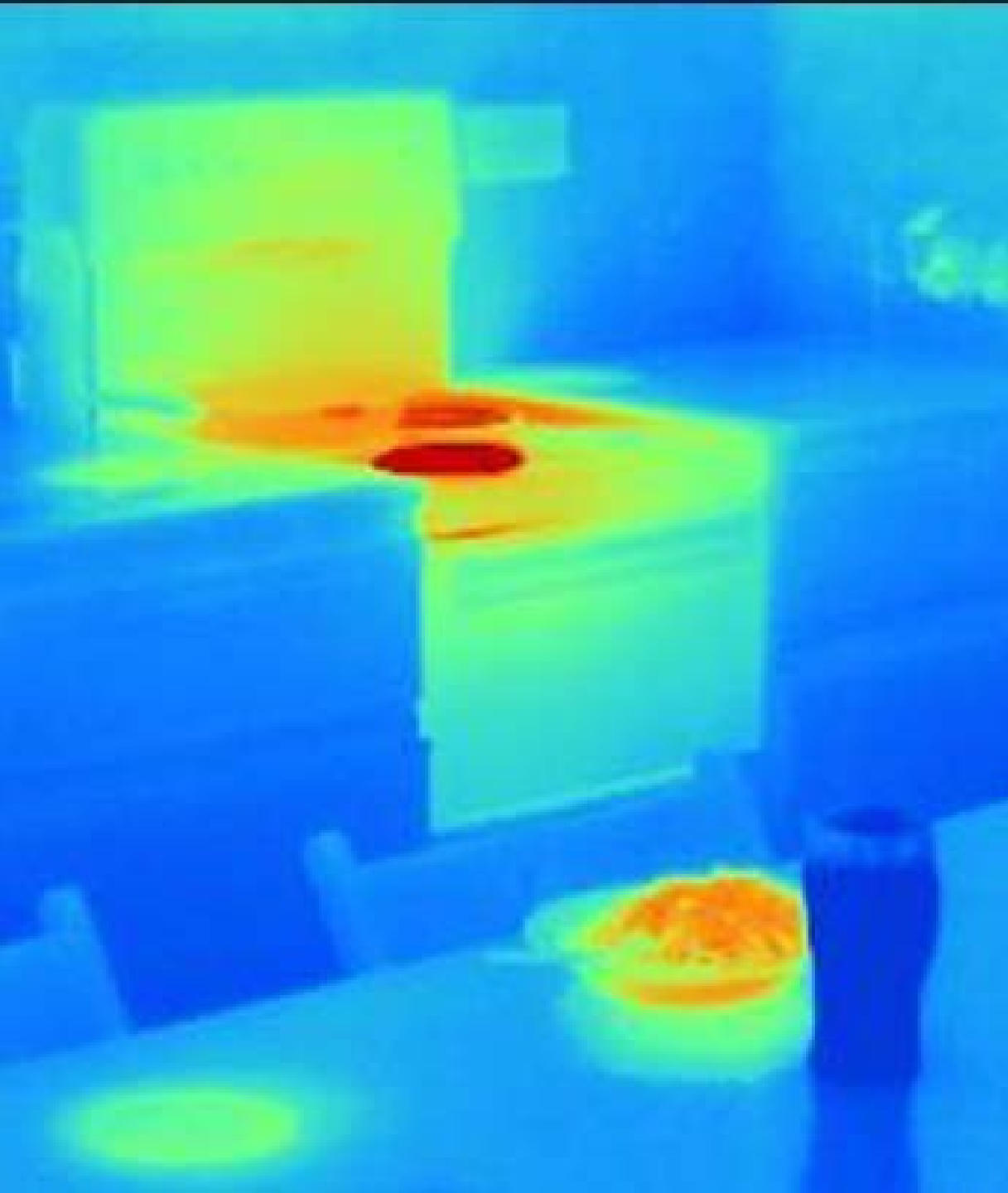
- The role of Galileo's telescope has been considered in detail in the philosophy of science (Ihde 1991) and similar analysis have been dedicated to microscopy, photography and other forms of visualisation.
- The concept of instrumental realism (Sekula 1981, Ihde 1991, Ihde 1998) has been extensively discussed.
- The operational characteristics of computers, hypertext and virtual reality have been accredited (Heim 1993) with ushering in revolutionary new ways of thinking and behaving on the part of the people who use them.

# Benefits...

- Deploying second order (learning-based) design approaches rather than first order (nudging-based) design approaches reduces some of the ethical difficulties regarding free will and the role of the state.
- While slower in response time, second order (learning-based) design approaches are often claimed to lead to be deeper and more disruptive due to changes in the value systems involved.
- In many cases the deployment of second order design approaches can lead to expressive outcomes.

# The Science Bit...





## The Applications...

### ***Energy Sixth Sense Thermostat***

*Thermal imaging cameras have been designed a the thermostat control on behalf of a energy system provider.*

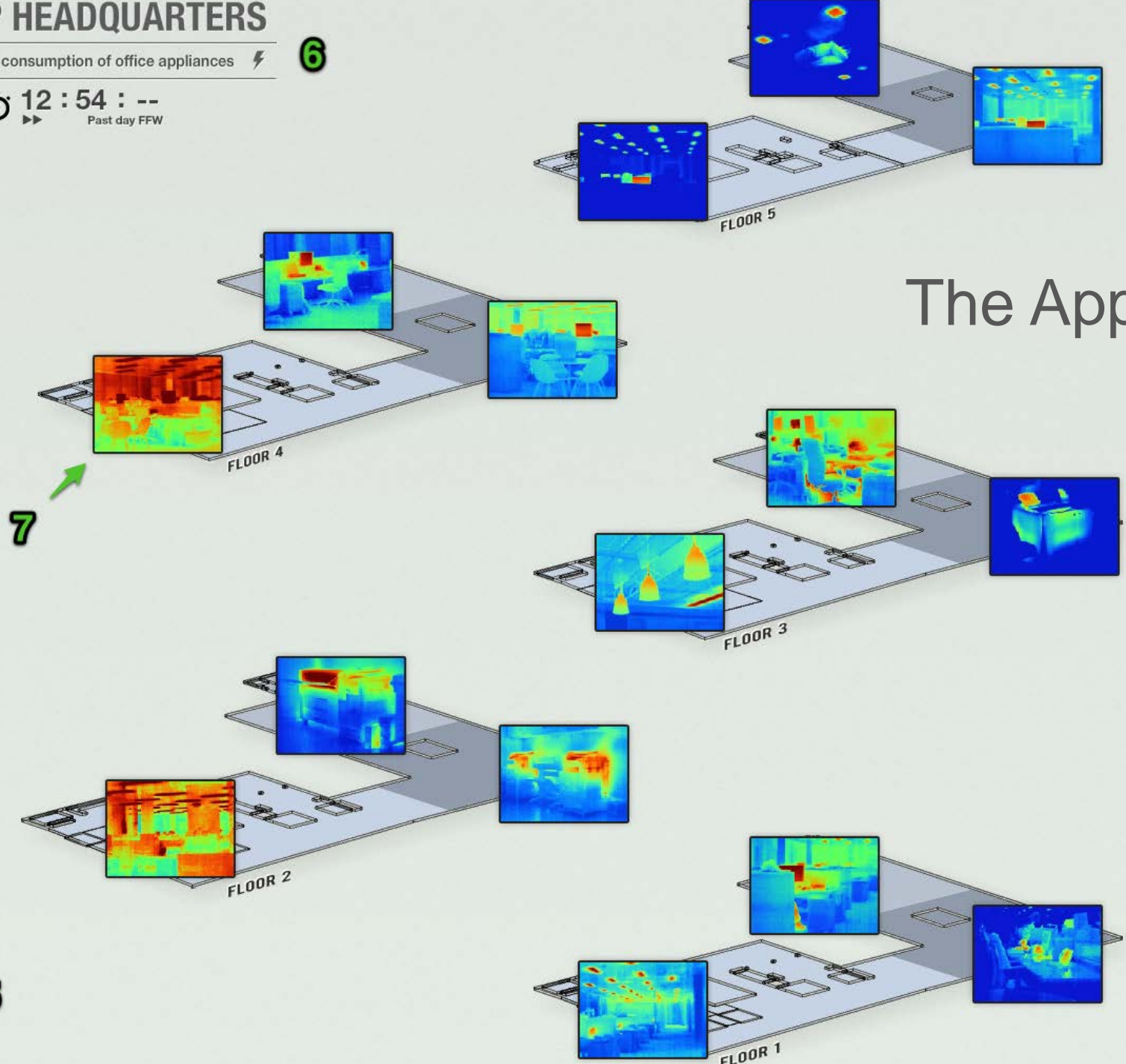


# ARUP HEADQUARTERS

⚡ Electric consumption of office appliances ⚡

6

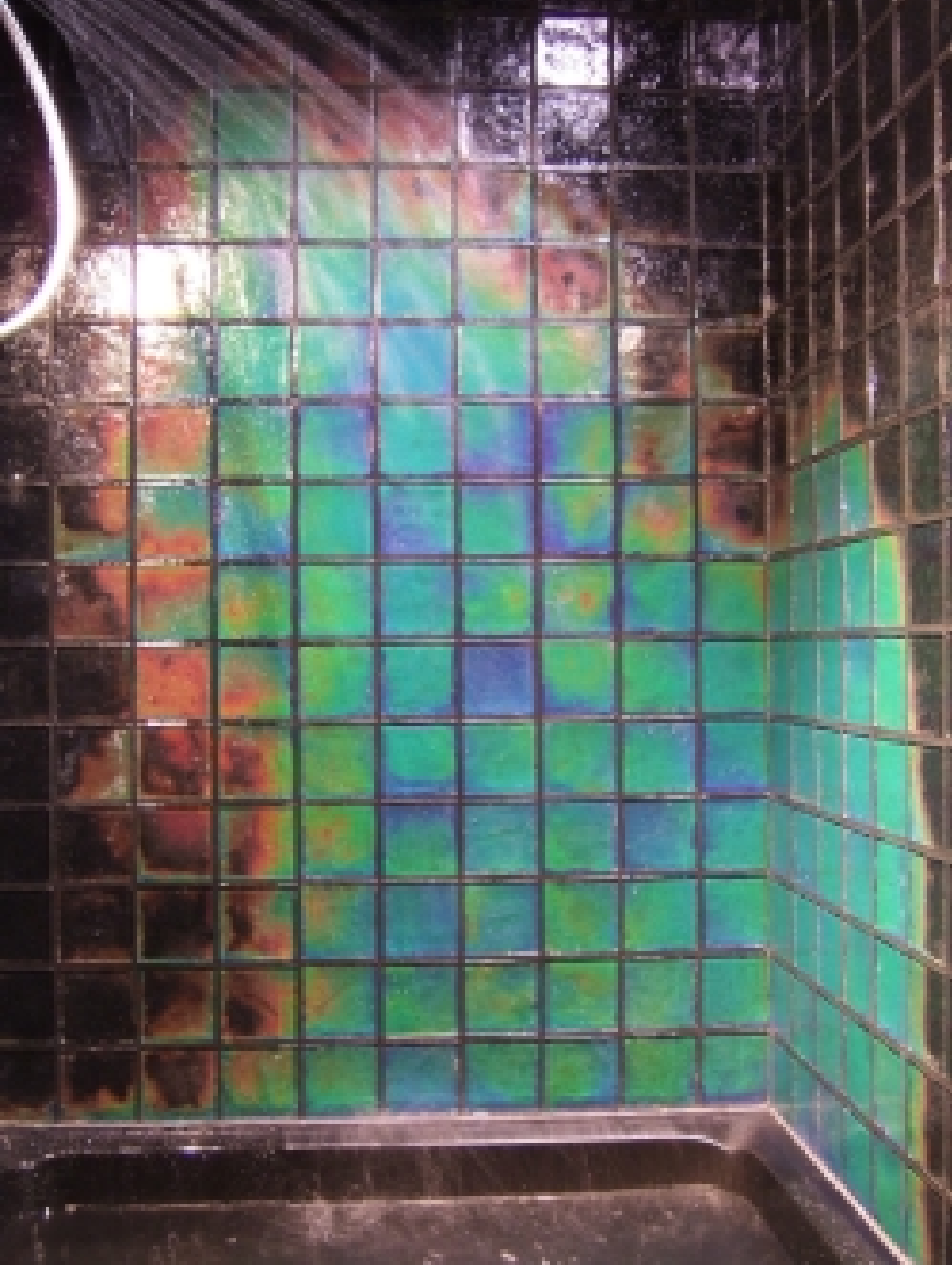
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## The Applications...

### *Energy Sixth Sense Building Display*

*A concept for a building lobby was developed in association with Arup.*



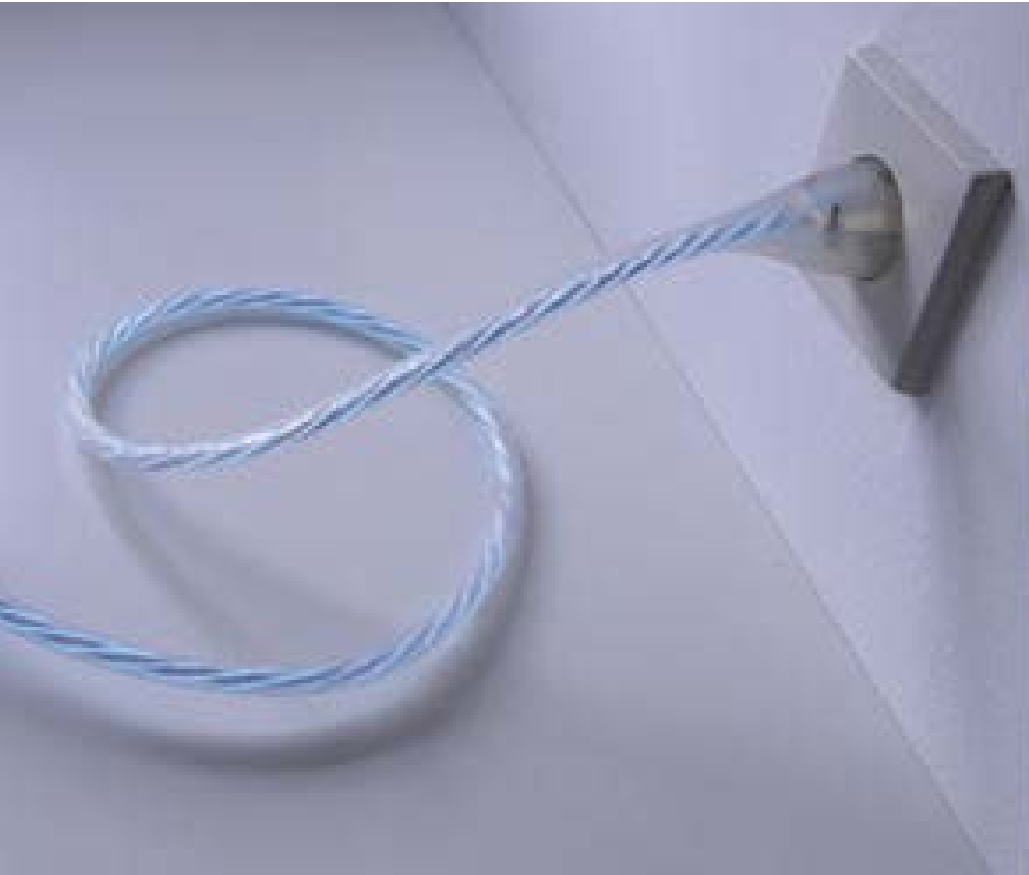
## The Applications...

*Temperature sensitive glass tiles have been brought to market by the company "Investables".*

# The Applications...

Described as “glowing guilt” the **Power Aware Cord** glows and pulses in proportion to the power which flows through it.

It was developed by Anton Gustafsson and Magnus Gyllenswärd of Static!, a research project funded by the Swedish Energy Agency.



# The Applications...

The *Tio* light switch encourages children to turn off the lights by becoming more expressively irritable the longer the lights are left on.



Switched on for less than an hour.



Switched on for over four hours.



Switched on for over eight hours.



# The Applications...

## ***Life – smart water metering***

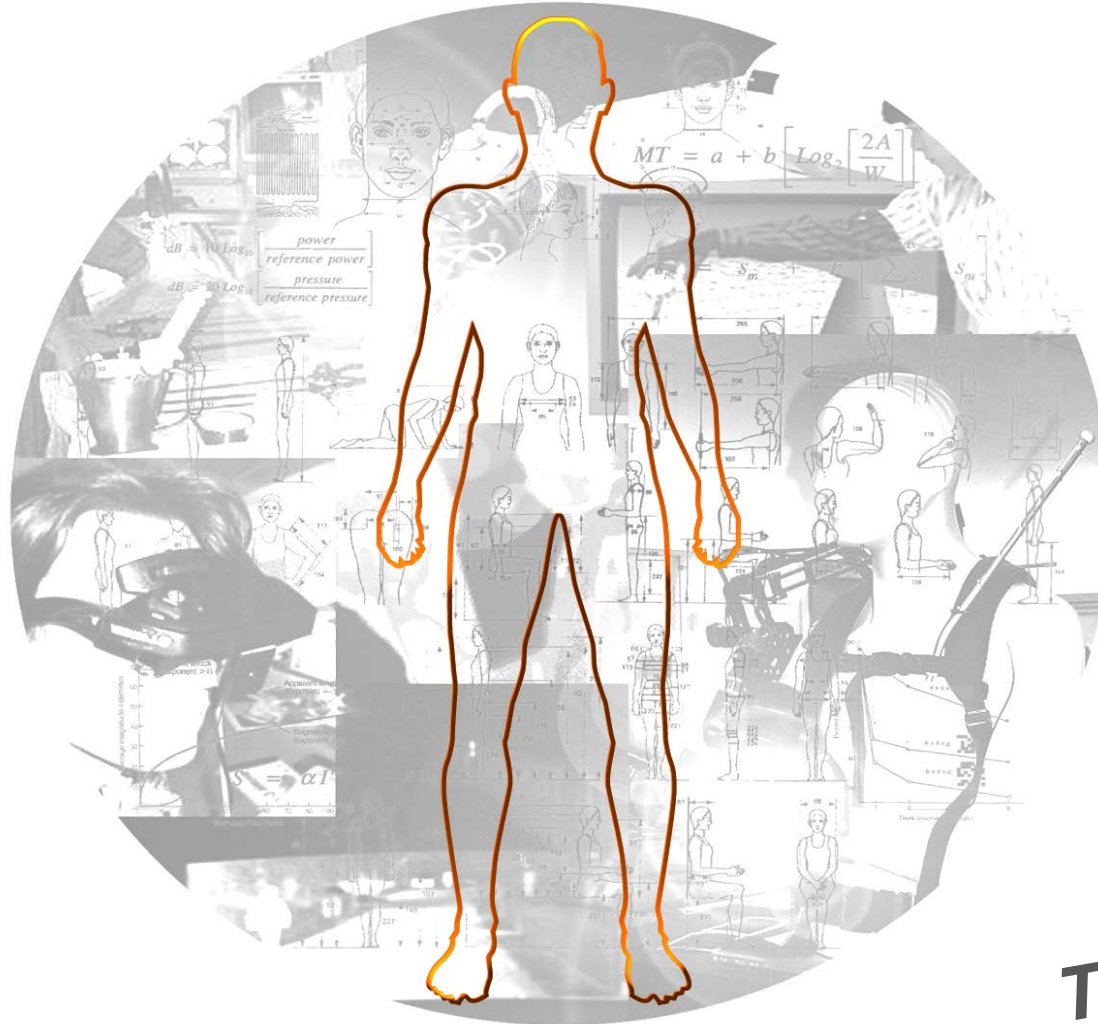
*Smart metering compares the household water usage to the national water board guidelines. The more water that is used, the less which is made available to the living plant, which withers.*





## The Applications...

**Ecosave** listens to incoming household water pipes, and sounds the alarm when unusually intense periods of water usage occur. It is the water-based equivalent of a smoke-alarm.



**Thank you.**