

# Great minds



Pioneering industrial designer, **Sir James Dyson**, chooses four of his favourite innovations.

## AUTOMIST

The Automist fits straight onto a kitchen tap and essentially acts as an all-in-one smoke alarm and automatic fire extinguisher. In the event of a kitchen fire, a wireless heat detector triggers an under-sink pump, driving mains water through a nozzle. This creates a fine mist that puts out the fire. I've read that 60 per cent of fires starting in the kitchen, so I think this clever device that should become a permanent safety feature in the home. It won Yusuf Muhammad and Paul Thomas the 2009 James Dyson Award, and should be on sale in the UK soon.

## TIDAL POWER

Just 0.2 per cent of the ocean's untapped energy could power the entire world. However, converting wave energy into useful electrical power is no mean feat. Only around 20 sites in the world have been identified as possible tidal power stations, eight of them in Britain. A promising development in the UK is the Anaconda, co-developed by Rod Rainey of Atkins Engineering. It looks like a giant sea snake. Waves create bulges along the tube which travel its length gathering energy. This energy powers a turbine which generates electricity. It's made of rubber which makes it more resilient than other similar devices. Still a few years away, it's this kind

of technology that will change the way we power Britain.



Photo by Mandy Reynolds

## REPRAP

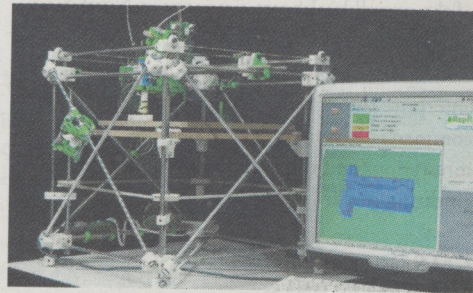
RepRap is a cheap 3D rapid prototyping machine that's capable of making complex objects, using very thin layers. It's being developed by Dr Adrian Bowyer and his team at Bath University. We use a form rapid prototyping at Dyson called selective laser sintering, but it's expensive. What's so special about RepRap is it's available to everyone and can make complex objects and prototypes very cheaply. RepRap's free distribution makes



The Anaconda wave energy capture device, designed by Atkins'

it revolutionary. It's essentially a form of peer-to-peer prototyping. The applications are limitless. It could be used to bring

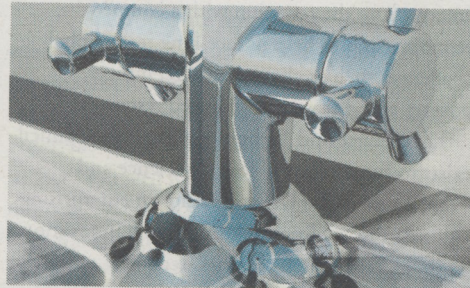
manufacturing to the garden shed. Or to design a set of bespoke furniture. It took me 5,127 prototypes and several years to make my first vacuum cleaner. With RepRap I could have got there a lot quicker!



RepRap Version I "Darwin" machine

## SS GREAT BRITAIN

The biggest ship in the world when she launched in 1843, SS Great Britain was the first propeller driven, steam powered iron ship to cross the Atlantic. Over the 24 years and 32 voyages, the SS Great Britain transported 16,000 people to Australia, including first ever English cricket side to tour Australia. The SS Great Britain paved the way modern passenger liners. Brunel's achievements were astounding: a testament to what engineering can achieve. Britain's ability to build world class vessels lives on in projects like BAE's HMS Astute, which can submerge and circumnavigate the globe in 90 days, generating air and fresh water from the ocean.



The Automist

The James Dyson Award 2010 is now open:  
[www.jamesdysonaward.co.uk](http://www.jamesdysonaward.co.uk)

