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Forward thinking

You've a great idea for making riding better but how do you make it real? Two bright sparks throw some light on the road ahead

Ani Surabhi and Morag Hutcheon are dedicated cyclists who've had brainwaves for making cycling better. Haven't we all? Who hasn't, over a post-ride cuppa, 'invented' a supersonic dog-scaring hub flange, a self-cleaning cross tyre or a helmet-mounted, full-body umbrella?

But Surabhi and Hutcheon are not merely idle day-dreamers; they're businesspeople and they went into business to convert their ideas into real, three-dimensional things you can, or will soon be able to, buy to enhance your cycling pleasure. Here's how they've done it.

Something good from something bad

Surabhi, while commuting along Notting Hill Gate on his customised carbon-fibre Scott, got 'doored' by a careless driver. His standard helmet absorbed some of the impact but the rest jarred his brain, giving him mild concussion — and a good idea.

"I needed to solve a problem for my industrial design course at the Royal College of Art, so I looked into helmets and decided they can be better," he says. First he built his own test-rig to exceed the standards of the British Standard and then chose 100 different materials to experiment on.

He was inspired by nature. "Woodpeckers don't get headaches because there's a corrugated structure between their beaks and their heads that softens the blows." There are similar structures behind rams' horns. If it works for living creatures, Surabhi reasoned, corrugated cardboard should be similarly effective at protecting human heads.

Softer landing, lower weight

Four months of tests on 25 varieties of cardboard proved him right. The resulting helmet can absorb four times the impact energy of a standard helmet while being just one-quarter of the weight. The breakthrough won him the prestigious Dyson Fellowship

(funded by the vacuum cleaner revolutionary), including funding to help perfect the cardboard lid.

Now protected by patent and branded as the Kranium, Surabhi's helmet has slim ribs of cardboard, dipped to make them waterproof, and covered with the more-familiar polycarbonate shell. And it won't cost more than a normal helmet. "The standard model will cost about £40," he says.

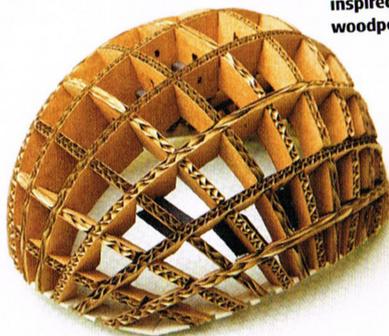
Customers paying about £80 at a Kranium flagship store will have their head scanned so that, while they wait, lasers can cut the cardboard for a perfect fit, and they can choose their own colour, straps and buckles. Surabhi is also planning a £2 disposable version to vend at London's Barclay bike stations.

If all goes according to plan, the cardboard helmet will go on sale in 2012. "I want Kranium to be made in the UK," says Surabhi. "It could be made in China but we have all the resources and facilities here, so it seems unnecessary to have it shipped from halfway round the world."

For more see: www.anirudharao.com

16 mph
standard impact speed for helmet tests

Cardboard cut-out: inspired by woodpeckers



Personal vision

Experience helps. Before Morag Hutcheon began her two decades as a design consultant, she was a youngster who raced BMX then switched to road bikes and rowing. A knee replacement set her back, but now she's recuperating by riding her hybrid along towpaths. The Graham Weigh road frame given to her for designing the graphics for the Eurotel team, in the Nineties, must wait in line to be taken for a spin, behind her Ducati Monster.

Hutcheon didn't have a 'eureka' moment but rather a light bulb in her head gradually got brighter over several years. During coffee breaks in a Cambridge cafe, she watched cyclists in flappy, dark clothing with

"A lightbulb in her head gradually got brighter"

unwieldy bags upsetting their balance. "They weren't riding safely because their gear wasn't up to it," recalls Hutcheon. "I started doodling, as I sometimes do."

The idle thoughts turned into market research. The sketches were revised into designs for manufacturing. Hutcheon, who had been a consultant to dozens of firms including Toshiba, Siemens and AT&T, and who was British Female Inventor of the Year in 2006, became the consultant for her own, new company, TwoZero. Her range of

high-visibility cycle clothing and bags were launched at the Earl's Court Cycle Show, last November.

Seeing clearly

"It's all about solving problems," says Hutcheon, "People put on a hi-vis vests then wear a big dark backpack on top, obscuring 90 per cent of the expensive reflective material. You can get bright rucksack covers but then you have to buy two things, which doesn't seem right to me." So her new vest has an expandable back, which unzips to accommodate a rucksack underneath, leaving the hi-vis material in plain view. "Problem solved with one product," she sums up.

Like Surabhi, Hutcheon is protecting her idea by applying for a patent, which will make life difficult

REINVENTING TWO WHEELS

How to turn a brilliant idea into an actual product

If you have an amazingly brilliant idea to make cycling better, why not tell the world via *Cycling Active*? Here's why not: Far be it from us to turn away good stories, but publicising your Big Idea in a magazine could jeopardise your chance of making it a success.

Your best bet is to work out how much it will cost to make, how much it will sell for and how many other cyclists will buy it. Then find a designer you can work with. The Design Council (www.designcouncil.org.uk) has useful information but there are better resources at the website of BusinessLink (tinyurl.com/cyclingdesigns).

Then, when you have done all the hard work and turned your retractable wind-powered-light-weight-invisible-streamlined gizmo into a working prototype and fully protected it with patents, give us a call. We love great ideas.



for anyone who tries to copy it. The new vest design convinced 16 cycle shop owners that it was worth some of their precious wall space. "It's going well, we're meeting our business plan," says Hutcheon, who also has new crossover bags helping sales grow steadily. They boast a waist strap to keep them in place and hi-vis markings all over to boost safety.

But beware thinking your own great idea will instantly give you loads of free time for cycling. It won't, no matter how successful it proves. "I work on the ideas, the marketing, the business plan, the design and manufacturing," explains Hutcheon. How does she do all that? "I just have very long days."

For more, see www.two-zero.co.uk