A bicycle wheel that captures energy from pedalling before releasing it to power cyclists up hills has been hailed as one of the world's best new inventions.

The Copenhagen Wheel is fitted with a hub containing a small motor charged up solely by the bike's movement and braking.

The "engine", designed into a hub on the back wheel, is controlled through a rider’s smartphone docked on the handlebars.

It connects to the hub of the wheel using Bluetooth, which can also lock the bike.

The bike wheel contains all you need so that no sensors or additional electronics need to be added to the frame and an existing bike can be retrofitted with the blink of an eye.

Carlo Ratti

The invention, created at the Massachusetts Institute of Technology, has won the US heat of the James Dyson Award for the best inventions of 2010.

"The Copenhagen Wheel is a 21st century upgrade to the bicycle," said Dyson, the British inventor and founder of the international design award.

"The wheel uses a technology similar to the KERS (Kinetic Energy Recovery System), which has radically changed Formula One racing over the past couple of years," said developer Carlo Ratti.

"When you brake, your kinetic energy is recuperated by an electric motor and then stored by batteries within the wheel, so that you can have it back to you when you need it."
"The bike wheel contains all you need so that no sensors or additional electronics need to be added to the frame and an existing bike can be retrofitted with the blink of an eye."

As well as controlling the power release and locking the bike, riders can use the phone to change gears. The gadget also maps pollution levels, traffic and road conditions.

The wheel is in its final prototyping phase and is due to go on sale next June - at about £380 per wheel.

Your Comments
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Posted by: Pliers on August 30, 2010 2:09 PM
Swampability will be able to exchange it for their taxpayer funded cars.
Recommend (0)
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Permalink

Posted by: Uruguayan on August 27, 2010 8:17 PM
Still easy to undo that back wheel and walk off with it!

Don't you think they will have thought of that.

“We’re showing that biking can really help some of today’s problems in cities — congestion, pollution, climate change,” says Ratti. For the bicycle user, there's another advantage to the embedded electronics: security. Because of its built-in Bluetooth connection to the user’s
cellphone, the wheel can be set so that the bicycle will only function if the user’s cellphone is within range. “The bicycle will recognize the presence of the phone and unlock,” Ratti explains. “When you leave, it locks,” without requiring any specific action by the user.

HOWEVER........................................if the Bluetooth connection fails while you are cycling
........................................................................................................

Recommend (0)
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Posted by: Etestify on August 23, 2010 10:54 PM
Still easy to undo that back wheel and walk off with it!
Recommend (2)
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Posted by: basilbird on August 22, 2010 7:36 AM
As usual its easier to highlight the negatives rather than look at the positives. I think its a great idea :)
1. Not everyone has the level of fitness to ride up hills (think illness numpty's, not just physical fitness)
2. Regardless of its efficiency, if it encourages some people to get out there and ride then great
3. It has all those data applications built it, which will appeal to city types :)
4. The cost will come down with time, as do all new electronic items, they may even do a cheaper version without all the data gubbins.

So stop being so negative, in this modern world of poor diets and little exercise, anything that helps is welcome, even if it doesn't fit into the cosy clique that you cyclist have. Would it help if riders of the copenhagen wheel all rode around in skin tight colourful "costumes" like you do LOL.
Recommend (9)
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Permalink

Posted by: Why-not on August 20, 2010 1:11 PM
This will show the age of some readers :-:

Anyone heard of the "magic wheel" ? Another "motorised" wheel for your bicycle.
Recommend (1)
Report this comment
Permalink

Posted by: Daktari on August 20, 2010 9:26 AM
If you have a bike with gears then start using them as they should used. You can get up hills just
as easy. Besides someone has already invented the electric bike already which are dangerous both on the road and on the pavement and they cost less than one wheel.

Recommend (4)
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Permalink

Posted by: mikeba on August 20, 2010 9:03 AM
GREAT IDEA !! Buy a bike for £100, then buy a wheel for £380 and then buy a phone for £400, plus the price of the app. I think it would be cheaper to get off and walk up the hills !!!
Recommend (10)
Report this comment
Permalink

Posted by: julony on August 20, 2010 8:55 AM
Another mode of transport to assist the lazy human
Recommend (3)
Report this comment
Permalink

Posted by: Mrs Kaur on August 20, 2010 8:53 AM
good investment for Rikshaw's
Recommend (4)
Report this comment
Permalink

Posted by: chipper on August 20, 2010 7:03 AM
I'm no inventor but I think I can see 2 major floors in this, we all know how often bluetooth gadgets lose their connection! bit of a bummer half way up a hill! and obviously if the great british weather lives up to it's expectations who in their right mind is going to mount their smartphone which costs more than this wheel on their handlebars?
Recommend (5)
Report this comment
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