



# futures Illum

## Cycling jacket with a twist

PDD Futures takes trends analysis that little bit further, making the products of the future possible today. Experts from across the company analyse markets, materials, technology and consumers to investigate and inspire the development of new products and services. We then create solid examples so our clients get to see the future on paper, then hold it their hands.

### Brief

In the Illum project, PDD partnered with Goose Design, an independent and innovative apparel design consultancy, to merge technology with fabric in a contemporary cycling jacket designed to combine the potentially conflicting elements of safety, fashion and day-to-day functionality.

For maximum appeal, the jacket needed to meet the needs of all types of cyclist, from serious enthusiasts to commuters and weekenders. This involved creating a style that would comfortably blend the transition from cycling to social life: helping cyclists to stand out on the road, but not in a crowd.

### Approach

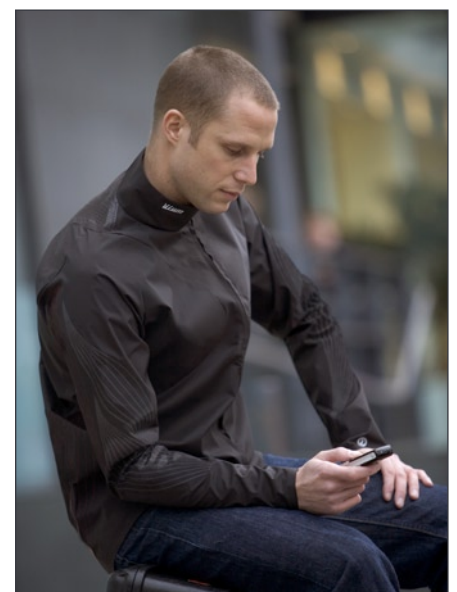
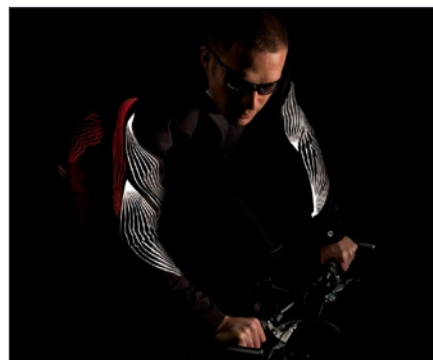
PDD and Goose began researching the needs of cyclists today. Urban cyclists include a number of different categories, from enthusiasts and commuters to fashion-conscious casual bikers. They also cycle on busy city streets and arguably have the greatest need for improved safety among the cycling community.

To meet the need for a jacket that gives constant visibility on the road, but avoids garish colours or unstylish reflective patches, PDD began exploring the possibilities of electroluminescent ink. When switched on, this provides a 360 degree light source, which fades to nothing when switched off. It then became necessary to address the issues

of power, conductivity and switching in a discreet and elegant way, to avoid the kind of 'bolted on' technology that would compromise the usability of the jacket. The solution was a soft switch powered by an integrated thin film battery that provides the small charge needed to activate the lighting via a transparent, printable conductive layer.

### Result

Washable, lightweight and flexible, Illum is a self-charging, powered external 'shell' made up of individual fabric panels designed to minimise weight and ensure the wearer remains cool, dry, comfortable and - above all - safe. The active panels provide high visibility in specially chosen areas while the photovoltaic solar cells are located on the back of the neck, shoulders and small of the back - away from areas likely to be covered during cycling. The lightweight stretch fabric allows for a better fit across the body and enables the electroluminescent design to be most visible in the areas where it will have maximum impact. Lighter weight fabrics are used in the central spine panel and chest pocket panels enabling moisture evaporation in 'hot spot' areas so the garment can be worn in most climates.



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