Graetzel cells are implanted in an iPad keyboard

May 29 2012, By Nicolas Guérin

Credit: Logitech

Dye-sensitized solar cells (DSSC) from EPFL enter the public market. Logitech chose this technology to power its new flagship product.

The technological choice of this world leader demonstrates both the maturity of this invention and that it is market-ready. After several years developing its industrial application, these particularly innovated solar cells can be implanted into products such as portable tablets. This marks a new stage for Michael Graetzel's discoveries at the Laboratory of Photonics and Interfaces.

Not only are the dye-sensitized solar cells relatively inexpensive, but also they are of particular interest for their finesse and efficiency: they work equally well in ambient light as in artificial light and can produce sufficient energy even without directly facing a light source. These

characteristics make them ideal for developing essential accessories to use in current nomadic technologies.

The performance of these solar cells comes from an operating principal that mimics photosynthesis. The light primes and maintains the transfer of electrons in the dye cell, producing a current. Just as with plants, this process is efficient even in a thin or transparent layer and it is therefore possible to combine the layers and insert them in small, portable products.

Provided by Ecole Polytechnique Federale de Lausanne