


# Autonomous rechargeable power for state-of-the-art bionic vision restoration systems

Saft Li-ion batteries power Pixium Vision's PRIMA Bionic Vision System (BVS)

## Key benefits for Pixium Vision

- Enhance patients' autonomy with lightweight battery pack allowing long periods between charges
- Improved patients' experience with miniaturized, simple & intuitive-to-use battery pack
- Highly reliable device meeting the most stringent medical regulations

## Saft solutions features

- Saft has taken over the comprehensive design, development and industrialization for the complex, miniaturized, high performing MP xtd battery system
- MP Li-ion chemistry features an outstanding cycle life, and a very stable internal resistance leading to very stable performances throughout lifetime
- ISO 13485 certified manufacturing facility, from cell production to battery system assembly

Case study

## The challenge: Developing a pocket-sized rechargeable power pack that is intuitive for the patients and delivers performance and reliability

Pixium Vision develops innovative Bionic Vision Systems (BVS), which are active implantable medical devices intended to treat blindness resulting from the degeneration of retinal photoreceptor cells. These devices are intended for people with retinal dystrophies who have a previous history of vision and a functional optic nerve.

The innovative PRIMA system consists of three main components: a pair of glasses that integrate a mini video camera, a battery-powered pocket computer that turns images from the video camera into data signals, and a miniaturized completely wireless, photovoltaic retinal implant and receives data from the glasses, activating the retina through its 378 tiny electrodes.

The battery for the pocket computer must be light enough to be easily portable and exchangeable as well as intuitive for the user. It also needs to offer the highest level of safety and must deliver enough power instantly, exactly when Pixium's PRIMA system needs it.

## The solution: Saft's miniaturized highly reliable battery pack

Saft has developed a miniaturized battery pack based on its state-of-the-art rechargeable lithium-ion (Li-ion) battery technology. Since the battery pack is a discrete item in the PRIMA system and is critical for the whole system, it not only needed to be reliable but also simple to use for someone with vision loss, while meeting the same medical device design standards as the rest of the retinal implant system.

*"Saft's Li-ion miniaturized battery system is critical to the success of PRIMA, not only by providing reliable autonomous power, but by helping reduce the size and weight of the overall bionic visiton system, and making it simplier and more comfortable for patients with vision loss."*

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