Oxygen-Sensing Smart Package Technology

Photonic BioSystems, Inc. has developed new technology for measuring oxygen non-invasively inside sealed packages for the food, beverage, medical, pharmaceutical and electronics industries. Using remote optical interrogation, it eliminates destructive package testing and enables non-contact, rapid, real-time O₂ measurements. This innovative approach makes “smart packages” by incorporating a small amount of an oxygen-sensitive luminescent dye inside the package film itself. The technology is extremely diverse, capable of measuring O₂ either in the gas phase environment of a dry package, in the headspace of a liquid package, or of dissolved-oxygen in fluids and beverages. This enables significant application for flexible film packages, rigid containers, bottles, vials, caps, and other sealed vessels. With its economic feasibility, the door for 100% quality control and quality assurance has now been opened.

Packager Benefits:
• Enablement of 100% QC/QA up to point of sale
• More efficient and lower plant operating costs
• Earlier identification of packaging equipment malfunction
• Reduced losses from out-of-spec packaging
• Higher customer loyalty
• Reduced risk of compromised brand image from flawed product entering the market
• Lower liability risk
• Protection from bioterrorist attempts, adulteration, tampering
• Opportunity for premium pricing commensurate with higher quality/safety
• Elimination of product loss due to sacrificial sampling of goods for test purposes

Customer Benefits:
• Greater confidence in their supplier(s)
• Reduced losses from dealing with inferior or unusable product
• Shelf-life studies
• Reduced risk of compromised brand image from flawed product entering the market
• Lower liabilities for resellers to end consumers
• Protection from bioterrorist attempts, adulteration, tampering
• Opportunity for premium pricing commensurate with higher quality/safety
• Prevention of counterfeit product entering the market

“This technology will raise the standard for package quality, efficiency, and safety of delivered goods.”

Through the proprietary process, O₂-sensing polymer films can be made from nearly any grade of packaging plastic designed for food, medical or electronics packaging. The potential of this technology can be consider a game-changer for the packaging industry. Photonic BioSystems is currently seeking license candidates and welcomes all interested parties to contact them directly to discuss this opportunity and/or submit proposals.