The objective of this paper is to provide an overview of recent advances in resin, coating and vacuum chamber deposition technologies that have enabled film manufacturers and converters to offer food manufacturers improved barriers and a broader selection of structures to improve the shelf life of food products.

A strong market and customer demand for a high-barrier material with the option to include a clear window have led to the development of high-barrier resins and coatings.

Brand names are very powerful. Retailers such as Wal-Mart have taken over brands. Today we must ask who the boss is. Some may say it is the spouse, the manager, the brand or Wal-Mart. However, the consumer is the real boss. If companies want to grow and gain market share, they have to synchronize with consumers. The more they know about consumers (what they want, what they need and how they feel about the product), the higher the success. This is also known as the Japanese Kansei design method. It focuses on how consumers feel about the product idea very early on in the design process. By fully understanding the emotional response to the package and product, the packaging engineer can design emotional appeal into the package.

FILMS AND SUBSTRATES
Looking back in time, packaging engineers have worked with substrates such as paper, cellophane, polyethylene (low-, medium- and high-density), polypropylene, polyester, nylon, aluminum foil and metallized films. Each of these materials has unique properties and characteristics, and can be used for various applications.

Paper
Kraft (natural and bleached machine-glazed grade), glassine and clay-coated sulphite are used in flexible packaging. Remember the candy bar wrapper and the potato chip bag? Paper (glassine or clay-coated sulphite, also known as C1S or C2S paper) laminated to either cellophane or oriented polypropylene was used to contain the product and provide the oil and grease resistance.

Low-, Medium- and High-density Polyethylene
Low-density polyethylene is used as a gen-