Flexible Packaging - What is it?

★ **Conforms to product shape**

  ✳ **Films, foils and papers**

  ✳ **Bags and wraps**

★ **Contains and protects product**

★ **Used in distribution and display**

  ✳ **Up to final consumer**

  ✳ **For a period of at least a day**

Flexible Packaging - What it is not?

★ **Labels**

★ **Merchandise bags**

★ **Trash bags**

★ **Consumer bags**

★ **Foodservice & deli wraps**

Industry Overview

* **Three main markets**

* **Two are food with 56% revenues**

	$MM 2002
Perishables	2,730.4
Dry Foods	2,568.4
Consumer/Industrial	4,488.0
Total	9,786.9

Perishables

★ **Food with short shelf life**

★ **Requires refrigeration, freezing or retorting to preserve**

★ **Perimeter of supermarket**

Perishables

Fresh Red Meat	Beef, pork, lamb & veal sold uncooked. Case-ready & foodservice fastest growing. Low OTR films used extensively.
Processed Meat	Lunchmeats, sausages & cooked meats. Deli meats, dinner sausages and refrigerated lunches growing. Mostly low OTR films
Other Meats	Poultry growing, especially in foodservice. Low OTR film usage modest
Produce	Fresh-cut is fast growing. High OTR films, permeability-specific. Other areas low value films.
Dairy	Mostly cheese, growing. Low OTR films for natural cheeses
Prepared Foods	Broad range of products, refrigerated & frozen. Low OTR films used for foodservice pouches, rising crust pizza, some refrigerated meals - all growing areas.

Dry Foods

★ **Freezing & refrigeration not needed**

★ **Maintain very low moisture, low MVTR films**

★ **Supermarket aisles in center**

Dry Foods

Snack Foods	Chips & other snacks. Very low MVTR films. High OTR sometimes needed to prevent rancidity. Graphic appeal and cost important. Growth of olestra-based no-fat
Baked Goods	Fresh bread, cookies & crackers. Use low & very low MVTR films, especially for c-stores. Graphic appeal important.
Confection	Candy & gum. Graphic appeal extremely important for impulse purchase. Low MVTR films sometimes.
Other Dry Foods	Very diverse group. Low OTR films in coffee, certain dry mixes & growing in pet food. Low MVTR in most products. Aroma barrier for coffee, some cereals & dry mixes. Pet food packaging changing.

Consumer/Industrial

★ **Wide range of products & packaging**

★ **Health care very high value**

★ **Very few barrier films used**

Consumer/Industrial

Health Care	Medical & pharmaceutical. Fast growing. Clean room & sterilization requirements.
Disposable Paper Products	Diapers, napkins, towels, etc. Mostly low-cost PE films. Some printing needed.
Soap & Toiletries	Soaps, lotions and samples. Some paper. Some sample pouches need chemical barrier
Other Retail Products	Bundling biggest segment, mostly PE shrink. Tobacco flat. Office products & hardware growing, mostly PE, but some barrier films. Apparel, textiles & toys use PE, PVC bags & wraps.
Audio/Video/ Software	OPP & PVC wrap for CDs, videos, cassettes
Consumer Durables	Household furnishings, mostly PE bags & stretch film
Building Products	Growing now, PE or paper bags or wraps for strength
Industrial Products	Palletizing w/PE stretch biggest. Agchem growing, needs strength, aroma & chemical barrier, switching from paper to barrier plastic. Industrial chemical also switching. Cushioning & mail order fast growing, PE & nylon structures for strength

Highest Growth Markets

Markets >$10MM	Growth
1. Case-Ready Red Meats	21%
2. Pizza	11%
3. Electronics & Computer Industry	10%
4. Medical Disposables	8%
5. Smoked and other Sausage	8%

Largest Markets

Market	$ MM
1. Candy	620.5
2. Palletizing & Unitizing	606.1
3. Tobacco	519.5
4. Agriculture, Lawn & Garden Products	452.9
5. Medical Disposables	398.9

Highest Value-Added Markets

Markets >$10MM	$/lb
1. Surgical, Medical and Dental Instruments	16.17
2. Resterilization	14.05
3. Medical Disposables	6.99
4. Fluid Delivery Systems	5.51
5. Pharmaceutical	5.40

Profiles of Key Markets

★ **Case-ready red meat**

★ **Pizza**

★ **Electronics & computers**

★ **Smoked and other sausages**

★ **Medical packaging**

★ **Agricultural and Industrial**

★ **Foodservice pouches**

★ **Pet Food**

Case ready meats

★ **Concept: package fresh meat at packer v. retail store**

★ **RATIONALE**

  ✴ **Reduced labor and other in-store costs**

  ✴ **More sanitary meat packaging practices**

  ✴ **Reduced spoilage loss (shrink)**

  ✴ **Better inventory control (reduced out-of-stocks)**

  ✴ **More efficient production**

Case ready meats

★ **OBSTACLES:**

  ✶ **Labor concerns over job losses**

  ✶ **Cost savings difficult to verify**

  ✶ **Consumers associate backroom cutting with freshness**

  ✶ **Longer shelf-life packages look different**

  ✶ **Retailers use meat department to differentiate themselves**

  ✶ **Investments equipment required of processors**

  ✶ **Adversarial packer-retailer relations**

Case ready meats

★ **Potential 9 billion retail packages**
  * **500 MM in 1997, 1,200 MM in 2000**
  * **Projected $63.7MM flexible sales**

★ **Many materials available**
  * **Clear antifog barrier lidding materials**
  * **Laminates to rigid substrates such as PS foam**
  * **Masterpack bags**
  * **High barrier shrink films**
  * **High abuse shrink films**

Pizza

- ★ **Frozen or refrigerated**
  - ✶ **Rising crust renews popularity**
  - ✶ **Oxygen barrier to stall rising**
  - ✶ **DiGiorno (Kraft), Freschetta, and others**
  - ✶ **Projected $173.6MM flexible sales**
- ★ **Flexible structures**
  - ✶ **Mostly LLDPE or PVC shrink**
  - ✶ **Rising crust Nylon/EVOH/PE**

Electronics & Computers

★ **Systems and components**

★ **Rapid industry growth**

★ **Packaging widely varied**

   ✴ **Antistatic films**

   ✴ **Oxygen barrier**

   ✴ **Cushioning (air cellular)**

   ✴ **Dust cover**

★ **Projected $55.6MM flexible sales**

Smoked and other sausages

★ **New flavor varieties**

★ **Ethnic diversity and dispersion**

★ **Typical processed meat structures**

   ✶ **Nylon/EVOH/PE forming**

   ✶ **PET/PVdC/PE non-forming**

   ✶ **Shrink bags**

★ **Projected $91.3MM flexible sales**

Medical & pharmaceutical

★ **Strong unit growth next two decades**

  ✴ **Aging of baby boomers**

  ✴ **Increasing life expectancies**

★ **Aggressive cost containment measures**

  ✴ **Identify costs for reimbursements**

  ✴ **Reduce expensive labor costs**

    ◆ **Pre-packed surgical kits save time to assemble**

    ◆ **Pouches often used**

  ✴ **Replace rigid trays**

Medical & pharmaceutical

★ **Requirements varied (FDA & sterilizibility)**

★ **Very diverse materials**

  ✶ **Polyethylene film**

  ✶ **Coated papers**

  ✶ **Coextrusions**

  ✶ **Spun bonded polyolefins**

★ **New products will need packaging**

  ✶ **Innovation from growth and cost reduction**

  ✶ **Flexibles package of choice**

Medical & pharmaceutical

	$MM 2002
Medical Disposables	398.9
Surgical –Medical and Dental Instruments (Including Kits)	158.0
Resterilization	208.1
Fluid Delivery Systems	138.3
Pharmaceutical	131.3

Agricultural and Industrial

★ **Bulk commodity-type packaging**

  ✶ **Multiwall and plastic bags**

  ✶ **Flexible intermediate bulk containers (FIBCs or "Super Sacks)**

  ✶ **Corrugated containers ("gaylords," intermediate bulk containers)**

  ✶ **Metal and plastic drums, pails, bottles and cans**

  ✶ **Single use, multiple use or permanent**

Agricultural and Industrial

★ **Products often need more protection**

  ✳ **Small endusers use less than bulk**

  ✳ **Bulk containers insufficient product protection**

  ✳ **Costly food ingredients, animal health products, etc.**

Agricultural and Industrial

★ **Endusers/suppliers unfamiliar with packaging**

  ✴ **Foil liner to protect from oxidation or flavor loss**

  ✴ **Metallized or coextruded barrier film cost less**

  ✴ **Growth in barrier as packagers learn benefits**

    ◆ **Nylon/PE for aroma/chemical barriers for lawn/garden chemicals**

    ◆ **Reclosable standup pouches for pesticides, potting soil and rock salt**

★ **Projected $452.9MM & 259.4MM flexible sales**

★ **4% & 2% growth**

Foodservice pouches

★ **Key drivers**

  ✴ **Overall economic growth**

  ✴ **Restaurants increase share of the food dollar**

  ✴ **Labor shortages→offsite preparation**

  ✴ **Conversions from higher cost #10 cans**

  ✴ **Efficient supply of "meal solutions"**

Foodservice pouches

★ **High or moderate barrier materials**
  - ✳ **Coextrusions: barrier (EVOH, PVdC or nylon) with sealant**
  - ✳ **Laminations metallized PET or nylon with sealant**

★ **Pouch fillers or vertical form-fill-seal machines**

★ **Projected $353.0MM flexible sales, 5% growth**

Pet Food

★ **Total retail market $10 billion**
  ✶ **Majority dry**
    ◆ **Multiwall kraft paper bag**
    ◆ **Greaseproof paper or OPP liner**
  ✶ **Remainder premium food in cans**
  ✶ **Treats in lined cartons**
  ✶ **Nearly all in supermarkets 10-15 years ago**
  ✶ **Discount department stores growing**

★ **Upheaval past 5 years**
  ✶ **Superpremium brands (Hill's & Iams)**
  ✶ **Pet superstores (PetSmart & Petco)**
  ✶ **Pet foods leader Purina premium brands**

Pet Food

★ **Costly, oxygen-sensitive ingredients protection**

  ✴ **Retain the flavors for superior palatability**

  ✴ **Foil laminates inner layer**

  ✴ **Less costly nylon/ barrier coextrusions**

  ✴ **Metallized film laminates for stand-up pouches**

  ✴ **Coffee packaging films**

★ **Plastic materials advantages**

  ✴ **Sealing keeps product integrity**

  ✴ **Fines do not escape to attract insects**

  ✴ **Better abuse resistance, reducing leaks also**

  ✴ **Newer, stronger materials**

  ✴ **Print quality improved**

Pet Food

★ **Stand-up pouches package for pet treats**

* ✴ **Convenient reclosable zippers**
* ✴ **Superior graphics**
* ✴ **Significantly less costly than carton**
* ✴ **Smaller dry food converting**

★ **Superpremium growth near term**

* ✴ **More sophisticated packages required**
* ✴ **Considerable uncertainty and change**
* ✴ **Many manufacturers evaluating needs**

Many other growth segments

★ **Coffee, especially gourmet**

★ **Fresh produce films**

★ **Stand-up pouches**

Summary

★ **Grow faster than economy**

  ✴ **Protecting broad range of products (staples)**

  ✴ **Beneficiary of cost reduction**

  ✴ **Rarely eliminated/replaced by other packaging**

KEYMARK ASSOCIATES

The Key to Targeting New Markets

Flexible Packaging Strategies 2002

MARKETS, MATERIALS & MACHINES