



**Market Trends and Quality Control Technology for Disposable  
Hygiene and Personal Care Industry in USA**  
美国用即弃卫生和个人护理产品的市场趋势和质量控制

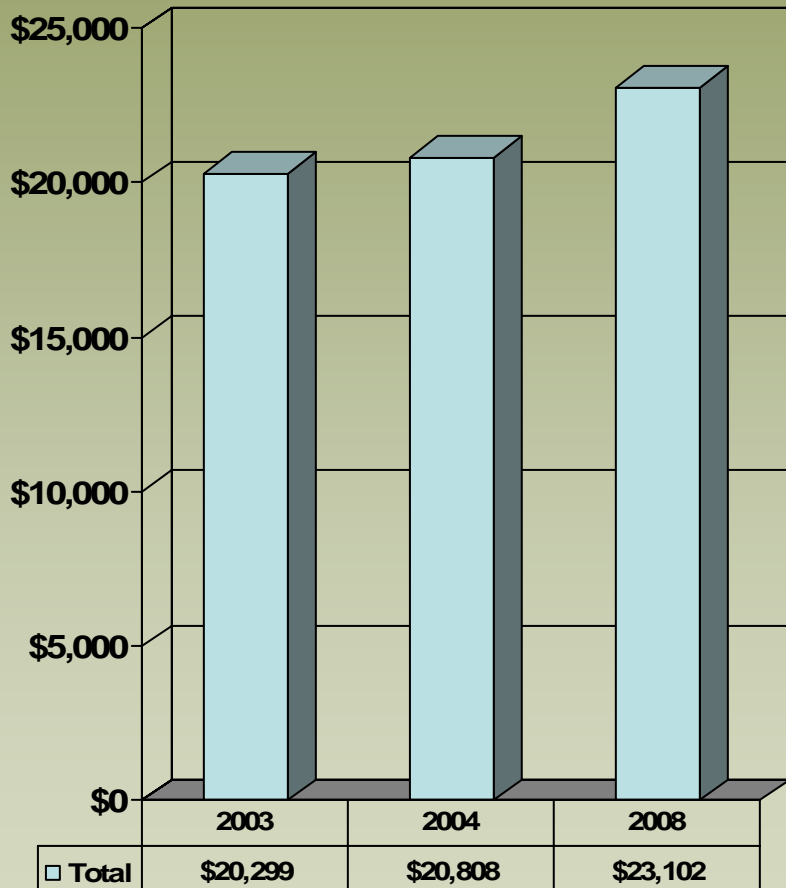
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# Worldwide Diaper Market Size 2003 to 2008

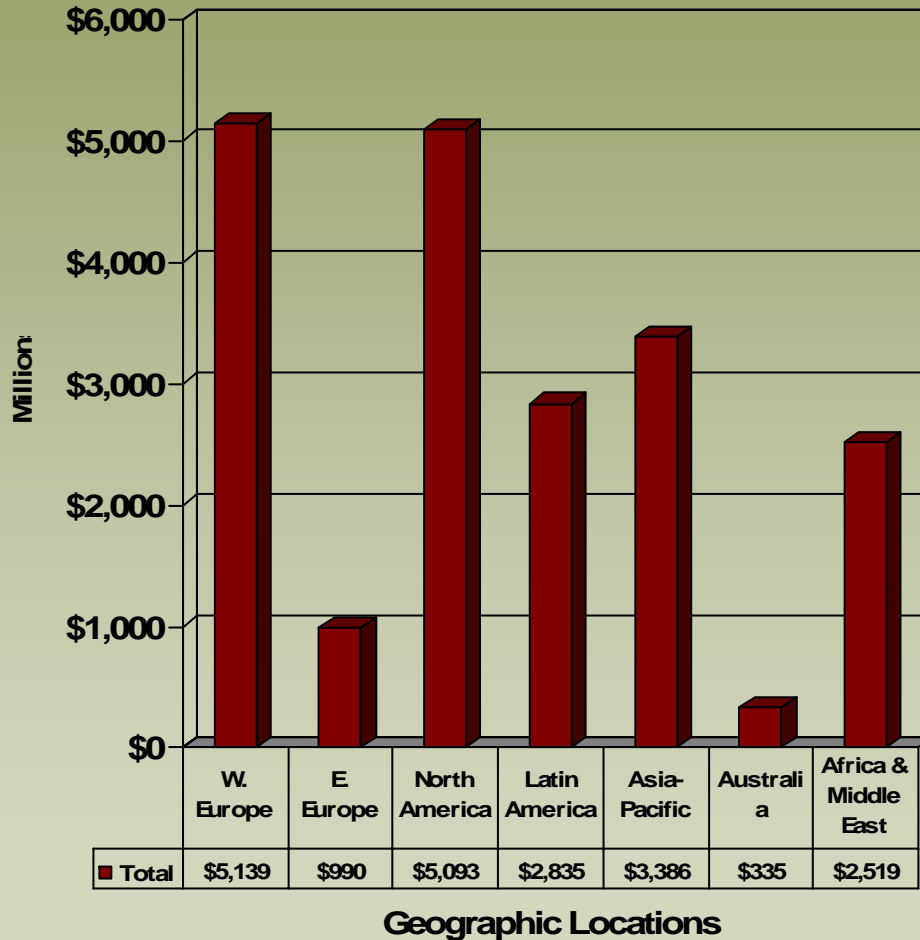
## 2003年-2008年世界尿布市场规模



- ✓ Growth rate from 2004 to 2008 around 4-5 %.
- ✓ 2003年-2008年增长率大约在4-5%
- ✓ Coming from new sales programs and new geographic areas
- ✓ 来自新的销售项目和地区



## Worldwide Diaper Market Size 世界尿布市场规模



- ✓ Western Europe (25.3%) and North America (25.1%) are the largest market  
西欧和北美是最大市场
- ✓ Western Europe and North American markets fairly well penetrated (西欧和北美市场渗透率高)
- ✓ Growth Area in Eastern Europe 东欧市场增长快速
- ✓ Asia & Latin America have higher growth rates 亚洲及拉丁美洲的市场增长率更大
  - ✓ Higher birth rates 更高的出生率
  - ✓ Less penetration 市场渗透还不高
  - ✓ Growing disposable income 可支配收入继续增加
  - ✓ Rise in women working 女性工作比率继续增加



## Dominant players in North America

### 北美主要的生产商

- Kimberly-Clark (K-C) 金佰利
  - Procter & Gamble (P&G) 宝洁
  - K-C and P&G European business also strong 金佰利和宝洁公司在欧洲市场也是占主导地位
- 
- ✓ Market share 市场份额
    - ✓ P&G 32% (2-4% of total revenue) 宝洁 32%
    - ✓ K-C 22% (11-12% of total revenue) 金佰利 22%
    - ✓ Private Label 20% 贴牌生产20%



## Key Observations

### 主要的观察

- Increasing Productivity (increase machine speed, reducing waste)
- 增加生产力（提高机器速度，降低浪费）
- Improving Quality (Key access point to super distributor like Walmart)
- 提升质量（大用户 商业关系的主要点，如沃尔玛）
- Quality and Consistency is the key selling points
- 始终如一的优秀品质是产品畅销的要素



## Notable Trends 显著趋势

- ✓ Higher Standards and Lower Price  
质量更优，价格更低
  - ✓ Private label is big business 贴牌生产量巨大
    - ✓ 20% of total 20%的份额
    - ✓ Wal-Mart in US 美国沃尔玛
    - ✓ Aldi & Carrefours in Europe 欧洲的Aldi, 家乐福等
  - ✓ Increased Price raw materials 原料价格持续增长
    - ✓ Up to 25% increase for pulp prices 纸浆25%
    - ✓ Up to 50% increase for resins 树脂50%
  - ✓ Price declines 产品降价压力
    - ✓ Can not pass increase cost to consumer 但不能转嫁到消费者



## US Growth Market 美国市场的增长

- ✓ Adult Incontinences 成人失禁产品
  - ✓ 2004 (North America Market)
    - ✓ \$1.1B retail sales 零售额高达11亿
    - ✓ \$900M institutions 公共采购9亿
    - ✓ 5.3B units 53亿套
    - ✓ 5-6% growth/year 年增长5-6%
  
- ✓ Training Pant 训练裤（如中国市场的“拉拉裤”）：
  - ✓ Extend diaper usage to older age 延长使用产品的年限



## Technology Trends 技术趋势

- ✓ Higher Speed (1000+ diapers a minute) 更高速（超过1000片/分钟）
- ✓ Quieter Machine → More Productive Workforce 更安静的机械→使生产环境更优化，生产力提升
- ✓ Reduced Down Time 减少宕机时间
- ✓ Less Waste 更少的浪费



## Technology Trends – continue ... 技术趋势 – 续

- ✓ **Better Quality 更优的质量**  
Superior Product Consistency through Real-Time Feedback  
实时数据反馈带来的优异产品品质
- ✓ **Innovative Materials 创新材料的应用**
  - ✓ **Cloth-like backsheets. 柔软如棉的内层**
  - ✓ **Stretchable 弹性合身**
  - ✓ **Breathable Materials 透气材料**
  - ✓ **Thinner, more absorbent cores. 更薄，吸水更佳  
(less weight less space) (减少重量，减少空间)**
- ✓ **Biodegradable technology 生物分解技术**



## Interesting Notes on Environmental Issues 关于环保的有趣注解

### **Disposable Nappies: a Looming Environmental Threat?**

用即弃尿布：威胁环境的新污染？

**“Third World mothers have always managed fine without disposable nappies. But if a big new marketing push succeeds, it could spell disaster for the environment”**

**by Hilary Solly on May 11, 2006**

“第三世界国家的母亲们不使用用即弃尿布，但市场渗透成功的话，她们也会大量使用用即弃尿布，那将会对环境是个大灾难”

Look for companies introducing “Environmentally Friendly Products”

市场需求环保的用即弃产品



## Winning Strategies 取胜之道

- ✓ Quality Conscious 质量意识
- ✓ Consistent Products 品质一致的产品
- ✓ Dependability 可靠可信
- ✓ On-time Delivery 准时交付



## Total Quality Control Approaches 如何进行整体质量控制

- ✓ Online Sensors 实时感应监测
- ✓ Integrated Vision Inspection System 高度集成的视觉检测系统
- ✓ Internal Quality Lab 内部质量实验室
- ✓ External Audit 外部审核
- ✓ Consumer Feedback (inkjet marking) 用户反馈
- ✓ Test Center (selected daycare center) 测试中心（如在选定的托儿所进行测试）



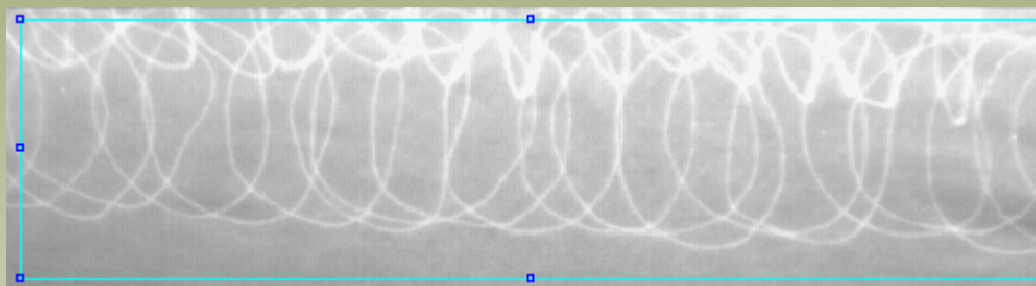
## Automated Visual Inspection – Technology Highlights 自动视觉检测 – 技术亮点

- ✓ **Surface Normalization** 表面光亮平衡处理  
(软件处理)
- ✓ **Subtle Layer Detection** 精细层界探测
- ✓ **Virtual Camera Technology** 虚拟照相技术
- ✓ **Web Connectivity** 互联网功能

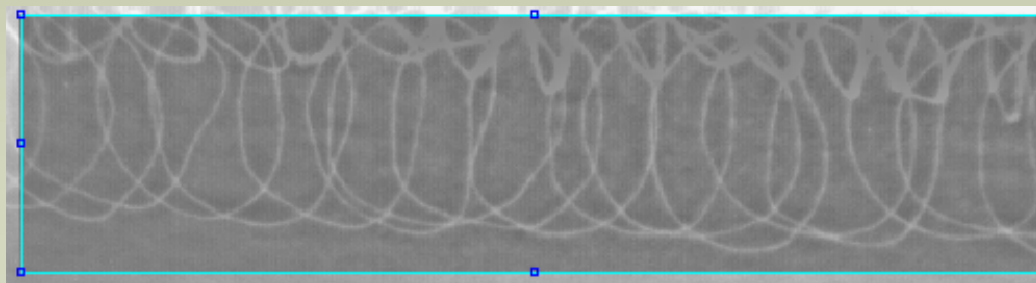


## Surface Normalization 表面光亮平衡处理

Before Normalization 处理前

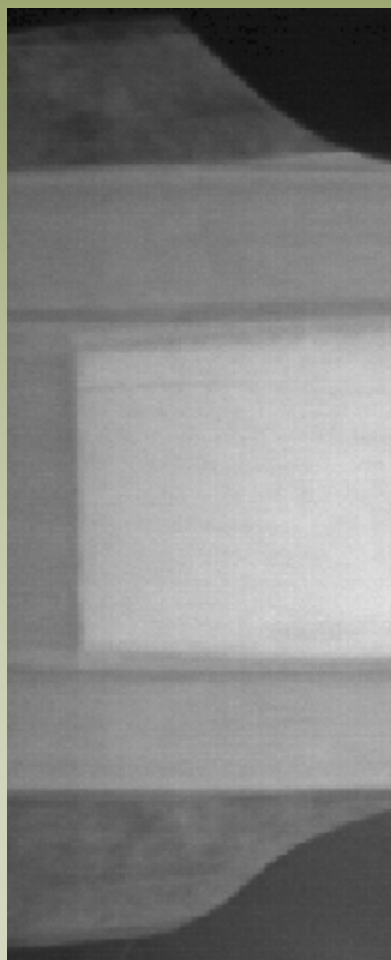


After Normalization 处理后

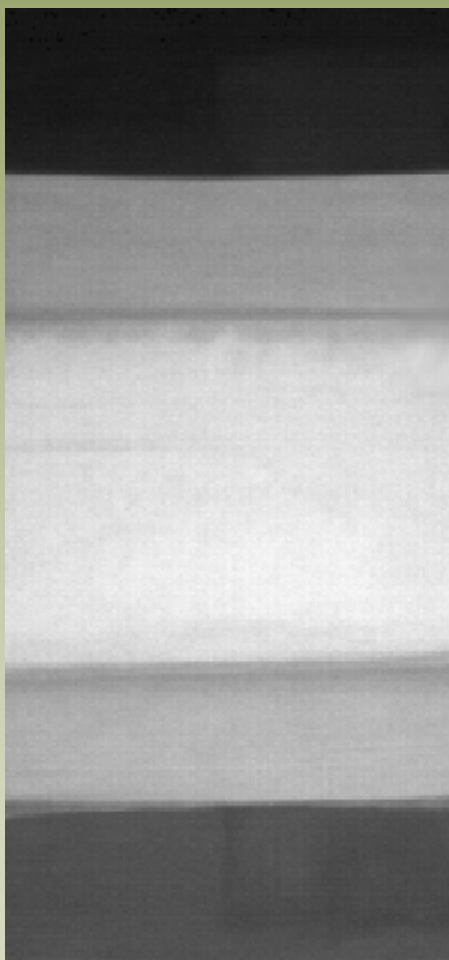




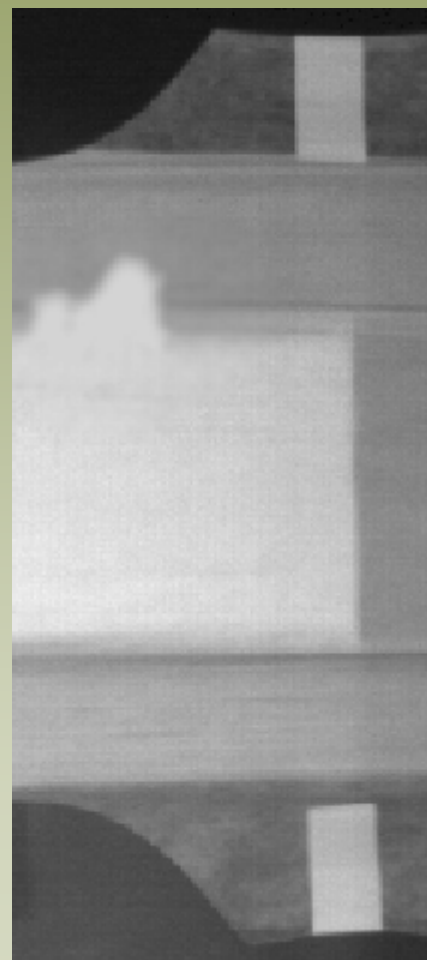
## Virtual Camera Technology 虚拟照相技术



Cam 1



Cam 2



Cam 3



Subtle Layer  
Detection

精细层界探测



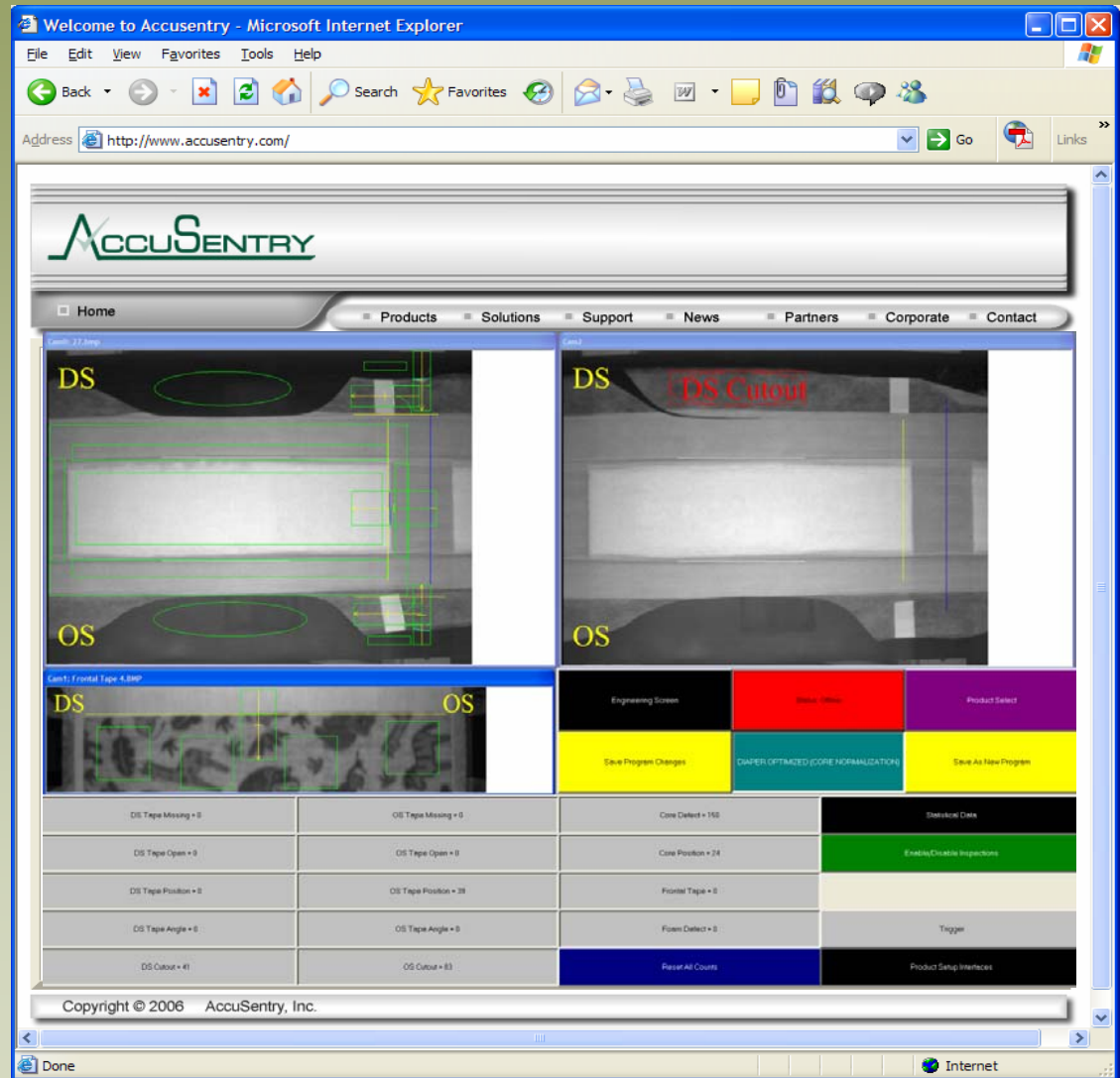
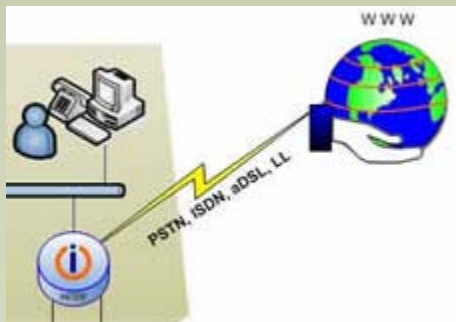


# Web Connectivity

互联网功能

✓ Secure Web Access 安全接入

✓ Remote Diagnostics 远程诊断





## Conclusions 结论

- ✓ Competing in the global market requires quality commitment
- ✓ 对质量的承诺是竞争国际市场的根本
- ✓ Step forward to Total Quality Control
- ✓ 进一步建立整体质量控制体系
- ✓ Be a reliable and consistent supplier
- ✓ 做一个可靠的信誉一贯的供应商
- ✓ Guard your brand reputation
- ✓ 保护你的品牌



## References

- ✓ [2] Wuagneux, Ellen, **“The QC Quest”**, Nonwovens Industry, January, 2006
- ✓ McIntyre, Karen Bitz, **“Diaper Manufacturers Pay Their Dues”**, **Nonwovens Industry**, January 2006
- ✓ [1] Solly, Hillary, **“Disposable Nappies: A Looming Environmental Threats?”**, The Independence, May 11, 2006