

Retail, POS & Point-of-Presence Systems Offer Dual Opportunities - Efficiencies & Improved Interactions

Designing the Experience Paramount To Success

The amount of device connectivity and managed services activity in Retail belies an industry that is frequently seen as low-tech and low margin. The benefits and underlying drivers are becoming quite clear. Benefits are numerous in areas like cold supply chain management and HACCP compliance that would benefit from enabling both products (tags) and systems (refrigeration unit) along with wireless sensors and actuators that could monitor the environmental conditions and take appropriate action based on the use profile of the items involved. These types of monitoring systems could also offer automation to manual reporting practices that are still common in many areas.

Beyond these fundamental benefits in systems, tracking, location, supply chain efficiencies and infrastructure asset management, there are also a wide range of opportunities involving consumer interactions. Retail and consumer applications, however, require careful design of experience based on an intimate understanding of the usage habits and behaviors for a given application. Many applications, to date, have fallen far short of this kind of systems and interaction design.

Key Forces & Trends

The retail market is a highly competitive and low-margin environment, forcing companies to look constantly for ways to reduce operating costs and provide better customer service. This market has been a major incorporator of e-commerce technologies as a way to drive additional revenue.

Device networking in the retail industry has a number of advantages. First, tracking point-of-sale data can give stores a better understanding of customer buying behaviors. Product and inventory tracking, on the other hand, can have a profound impact on retail supply chains. As more and more stores are demanding that their suppliers cut delivery times, many are bypassing distribution centers and taking delivery directly to stores. The ability to track and manage information about millions of items (at the pallet, case, or item level) will be critical in preserving margins of both retailers and their suppliers.

In certain segments of retail, adoption of networked technologies is mission-critical, rather than simply a way of improving the owner and customer experience. For example, stores like supermarkets and mini-

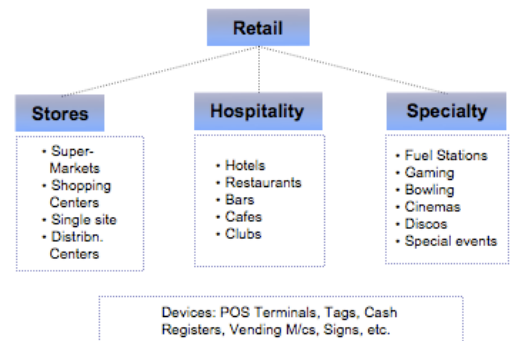
Harbor Venue Coverage

Venues and markets we address in our Pervasive & M2M research and analysis include:

- Energy & Power
- Industrial Systems
- Retail
- Smart Homes & Buildings
- Healthcare
- Physical Security
- Transportation
- IT & Comms Systems

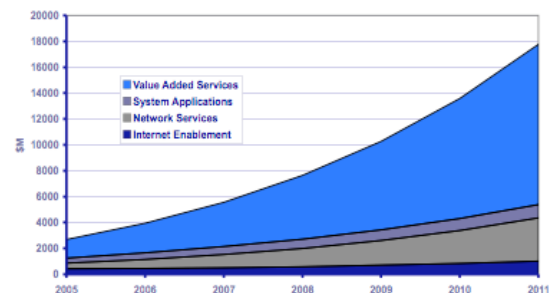
Retail Venue Segmentation

The Retail Venue includes devices such as and digital signs, point of sale systems, and a wide range of kiosk and point-of-presence systems. Pervasive & M2M services are built to manage customer interactions & transactions, and to optimize shopping experiences.

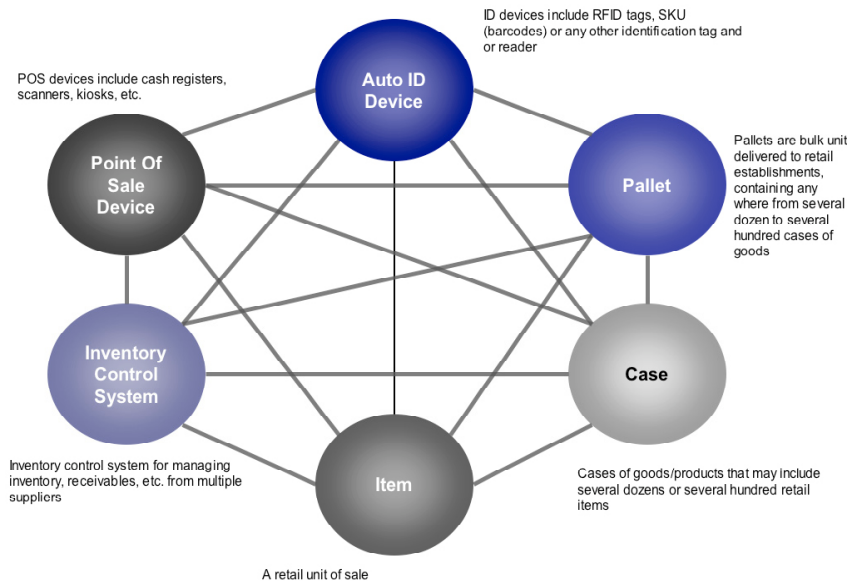


Venue Scale & Growth Potential

Value added capabilities and managed services within the Retail Venue alone could grow to as much as \$13 billion by 2012.



markets that operate heavy refrigeration equipment depend heavily on the health of these systems. M2M and pervasive solutions can potentially increase the profit margins in retail and greatly increase the speed of business. Because of the obvious benefits, this venue is now adopting networked products and services for devices such as refrigerators, vending machines, point-of-sale terminals, scales, and scanners.



Harbor's contact with suppliers and adopters of retail solutions reinforces past views that easy setup, cost of devices, availability of managed services, and consumer privacy concerns, are the key factors influencing the adoption of pervasive solutions. Since the retail/POS market requires rapid turnover of product and pricing information, leaders need devices that include remote upgrade capabilities, remote diagnostics, and real-time condition notification.

Networked devices in retail must also be attractive to both the consumer and the operator, a non-issue in most other industries. Just as bar codes became ubiquitous across retail after key retailers began demanding them, so will RFID tags and related equipment enablement solutions.

Inhibitors to growth in this arena could include the increasing publicity over privacy which may slow implementation. Another pitfall is the the ability to design and develop relationships that drive eco-system differentiation and effective market delivery. A third inhibitor is the ability to design effective interactions and experiences for the consumer.

We Clarify the Business Value

We understand that most potential adopters see the M2M / Pervasive Internet world as a daunting terra incognita. The technologies are difficult, the standards are constantly evolving, and the vendor landscape can seem fragmented and bewildering.

We make industry knowledge a key element of our toolkit. In order to keep ourselves fully up-to-date we perform continual analysis and research into specific markets and the maneuvers and strategies of the best performers. Our ongoing research gives us a rich context in which to view each client's opportunities and challenges.

We have direct consulting experience with virtually all the supply side and adopter segments within the over buildings arena

About Harbor Research

Harbor Research, Inc. has been providing strategic consulting and research services to leaders in communications, computing, control, equipment and content since 1983. Harbor's keen eye toward market results is manifest in all of our processes and tools, providing clients with the perspective they need to make best-informed decisions. We emphasize interactive analyses, the incorporation of outside perspectives, time-efficient workshops, and action-oriented decisions. Our multifaceted approach, ranging from the research we publish to the fully customized consulting engagement, provides optimal value to our clients and has also allowed us to develop important advantages as a firm.

Contact Us For More Perspective

For more information, call us at 800.595.9368 x23 (outside the U.S., 415.615.9400 x 24), or send email to info@harborresearch.com.