The North American Commercial Digital Display Market

- Digital Signage
- In-Store TVs
- Corporate Communications
- Command & Security Centers

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About Us
InfoTrends/CAP Ventures is the leading worldwide market research and strategic consulting firm for the digital imaging and document solutions industries. We provide research, analysis, forecasts, and advice to help clients understand market trends, identify opportunities, and develop strategies to grow their businesses. To learn more about our company, visit www.capv.com.

Commercial Digital Displays and Narrowcasting Defined

The past five years have seen dramatic advances in display technology, network infrastructure, components, and software for creating, managing, distributing, and displaying digital images and video content. Numerous technology leaders continue to make major investments in core imaging technology that will yield significant improvements in all aspects of displays, including size, quality, form factor, reliability, and costs.

While much attention has been paid to the consumer markets for displays including PCs, televisions, digital cameras, mobile phones, and PDAs, InfoTrends/CAP Ventures believes that there are a variety of highly attractive opportunities in the commercial markets. Some of the **leading commercial market segments for display systems** include:

- Retail
- Hospitality (bars, restaurants, movie theaters, hotels, etc.)
- Services (healthcare facilities, retail banks and brokerages, etc.)
- Trade shows
- Transportation centers (airports, train stations, etc.)
- Other public spaces (high-rise elevators, buses, and taxis, etc.)
- Communications (conference rooms, lobbies, training, etc.)
- Security/command and control centers

Unlike the consumer market, commercial implementations are driven by business factors such as sales, customer service, productivity gains, security, or enhanced communications. The commercial market provides significant opportunities for revenue streams beyond hardware, including integration, maintenance, content development, and operations.

The commercial market also offers a broader range of system requirements that enable vendors to differentiate themselves and dominate specific segments. Key elements for systems differentiation can include display (size, quality, form, brightness, lifespan, refresh rate, cost), content (images, video, design, delivery, management), networking, and business model.

While CRT monitors and printed signs (i.e. offset, screen, inkjet) dominate much of today's commercial display market, InfoTrends/CAP Ventures believes that the industry is on the cusp of widespread migration to digital display systems using a variety of technologies (i.e. LCD, LED, plasma, OLED, front/rear projection, electrophoresis). As the cost of new display technologies continues to drop, we believe that many market segments will be attracted to the new benefits.

A Brief History

The use of electronic display systems for corporate and government communications, command centers, and security applications has been around for many years. These systems have primarily used CRT displays and private closed circuit networks. With advances in display technology in addition to new Internet-based network infrastructure and services, however, many companies are migrating to new flat panel displays and IP-based multimedia systems. While narrowcasting in public spaces is not nearly as well-established as commercial display systems (i.e. communications and security), it is not as new as many observers would assume. Some forms of narrowcasting have been in place for over 10 years. The CNN Airport Network, for example, dates back to 1992. The College Television Network was established in 1991 and The Accent Health Waiting Room TV Network was established in 1995.

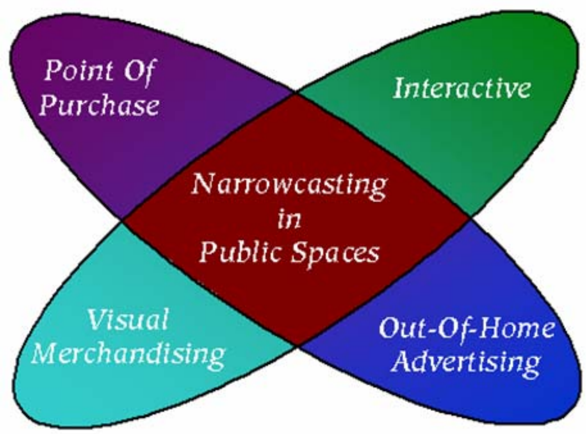
Nevertheless, a substantial majority of the new installations are no more than five years old. The next generation of narrowcasting systems includes Wal-Mart TV (PRN), NikeTown Stores (CoolSign), and Advanced Auto Parts (Convergent Media Systems, RMS). Over the past five years, dramatic improvements in technologies have coalesced to make these systems sufficiently capable, robust, and cost-effective to allow widespread deployments.

It is evident that all aspects of the commercial display and narrowcasting markets are experiencing significant growth and technical developments. These network-based systems rely on many of the same types of components, displays, software, and services that provide opportunities for product differentiation and value-added services.

Segmentation and Multiple Uses

Narrowcasting is not a "one-size-fits-all" concept. Key variables identified in the original study included the number of sites, the size of individual sites, the type of public space, and the objectives of the particular installation. Multiple business models are also in use, determining who pays for what, as well as how the revenue streams and content control are managed and shared. In each installation, the combination of these site factors, objectives, and business models heavily determines the type and location of displays, type and mix of content, and frequency and methods of communication and control.

Many retail executives, brand managers, advertising professionals, and corporate communications managers are intrigued by the potential of commercial display systems. Nevertheless, many of them are unsure of the return on such an investment and are confused by the many vendors that are vying for their business.



Commercial display systems often require substantial capital investments and operating costs; potential users need to understand the economics and the tradeoffs involved, as well as the impact on their businesses. Vendors and service providers, meanwhile, need to focus their product offerings, messages, and business models. They also need to establish more-accepted metrics for measuring the contribution from narrowcasting installations.

Despite the uncertainties, narrowcasting remains a major opportunity for retailers seeking to drive sales and enhance the customer experience. This medium is attractive to brand marketers who are hoping to reach the demographics of the individuals that they are targeting. A key finding of the new study is that major media companies such as Clear Channel Communications and major ad agencies such as Saatchi and Saatchi or J. Walter Thompson are also taking this new medium seriously, and are likely to be key drivers of further development. These systems also provide unique opportunities to enhance productivity, communications, and security. Finally, commercial display systems represent an important new revenue opportunity for many technology vendors and service providers.

Project Objectives

InfoTrends/CAP Ventures has updated and expanded its original narrowcasting study with new primary research, a worldwide market forecast, and additional market segments. The study:

- Describes the structure of the commercial display and narrowcasting market
- Identifies critical market segments for narrowcasting technologies and services
- Sizes and forecasts the demand for enabling technologies and services

- Identifies the key business drivers for the rapid adoption of narrowcasting systems
- Understand the perceptions, requirements, and plans for commercial display systems among retailers, brand managers, advertisers, and operations executives
- Describes the business models being used in narrowcasting deployments
- Highlights the opportunities for distribution and systems integration
- Provides insights for the development of new narrowcasting products and services
- Identifies and profiles the key vendors

The results of this report will be especially helpful to key industry players, including:

- Operators of narrowcasting networks
- Manufacturers of visual display systems and components
- Developers of software for network management, content creation, and content management
- Bandwidth providers and communications equipment manufacturers
- Media companies
- Venture capitalists and investment bankers
- Brand managers and advertising agencies
- Corporate IT managers
- Retail executives

This study provides technology vendors and service providers with critical information to support their product planning, marketing efforts, and ability to attract new capital investments. It offers valuable insights and technology analysis to corporate IT professionals responsible for internal digital signage, displays, and related communications tools. It also provides retailers, other public space operators, brand managers, and advertising professionals with an in-depth understanding of the opportunities presented by this relatively new medium, along with keys to a successful deployment and pitfalls to be avoided.

Critical questions that this study addresses include:

- How has the market developed over the past two years? What has contributed to the successes and failures?
- What are the key trends and underlying drivers?
- What is the size of the industry and revenue potential by product and market segment? What are the updated growth expectations?
- What are the major applications for digital displays?
- What key technology advances have taken place? What are the key expectations for product and pricing trends?
- Who are the industry vendors? What are their roles? How are they segmented?

- How many known deployments are there, and how many sites do they cover?
- What are customers' preferences for technology and service implementation? What causes one technology and service provider to be chosen over another?
- What are the key attributes of different display technologies, and how do these attributes map to the major applications?
- What are the trends in display technology?
- What content formats are preferred, and why? What works best, where?
- What are the requirements for and cost of a narrowcasting system?
- What business models are in use? Has the mix changed? What are the trends? Which methods are more effective or less effective?
- What are the keys to a successful narrowcasting deployment? What are the obstacles or pitfalls?
- How has the awareness and perception of narrowcasting systems by retailers, brand managers, and advertising professionals changed?
- Are retailers, brand managers, and advertisers willing to embrace narrowcasting? How has this changed?
- What are the perceived strengths and weaknesses of narrowcasting systems versus conventional advertising and promotional media?

Market Size and Forecast by Market Segment

In its original report, InfoTrends/CAP Ventures established an aggressive market forecast with five-year CAGRs (Compound Annual Growth Rates) approaching 50%. While this market was relatively small in the base year (2001), it is interesting to consider how well this forecast held up, what factors have contributed to the actual growth over the last two years, and what expectations are moving forward.

We re-examined our original five-year forecast, reported any variances, and discussed the underlying causes of those variances. We present an updated five-year forecast for North America that covers 2004 through 2009. The estimates and forecast are segmented by:

- Displays (with subsegments by display technology)
- Systems integration
- Content control/management software
- Network operations/advertising

In terms of venues (number of sites), the data is segmented by:

- Retail
- Hospitality
- Other public spaces

- Services

We also estimated the current size of the other components of the commercial digital display business, namely:

- Outdoor digital signage
- Corporate internal digital signage
- Command / control / security

The Market Research

InfoTrends/CAP Ventures will leverage its extensive knowledge about the visual communications industry and previous work in narrowcasting with extensive market research. Senior InfoTrends/CAP Ventures consultants conducted a series of in-depth interviews with key industry players, users, and prospects to gain insights on the development, enablers, and prospects for commercial display technology and services. These efforts were designed to build upon the results of the original report.

Secondary Research

We reviewed and updated the literature on the narrowcasting and networked digital signage industry as well as the data on key advertising and business metrics. InfoTrends/CAP Ventures examined information from a variety of sources, including:

Direct Marketing Association	U.S. Department of Commerce
Outdoor Advertising Association of America	Vendor and retailer Web sites
Point of Purchase Advertising International	Financial reports
National Association of Broadcasters	Business and trade journals
National Association of Advertisers	InfoTrends/CAP Ventures' database

In-Depth Interviews

A key source of information for this report was in-depth interviews with industry vendors. These vendors were extensively interviewed regarding industry developments, technical trends, business models, and specific success stories over the past two years. We contacted vendors in all of the industry segments, including:

- Network operators
- Software vendors
- Technology vendors (display, storage, media servers, etc.)
- Systems integrators
- Value-added distributors and resellers
- Bandwidth providers
- Content providers

Vendor Profiles (60)

In its original study, InfoTrends/CAP Ventures provided detailed profiles of nearly 60 industry vendors, including network operators, software developers, display manufacturers, systems integrators and value-added distributors, and bandwidth providers. This popular feature has been updated based on contact with the vendors as well as information from secondary sources. A number of vendors have closed their doors or exited the industry, while a number of other companies have entered the business, with the net result being approximately the same number of active vendors.

Structured Surveys

Another key part of the research effort was the structured surveys.

Retailers, Brand Managers, and Advertising Professionals (247)

InfoTrends/CAP Ventures conducted structured 20-25 minute interviews with 247 retailers, brand managers, and advertising professionals. The objective of the survey was to obtain quantitative insights from the people who make decisions about narrowcasting deployments as well as advertising media and spending.

Once again, we built upon a similar survey used in the original report, in many instances repeating previous questions, to enable a comparison of the results over time. Key topics included:

- General awareness of narrowcasting systems
- Specific awareness of narrowcasting deployments
- Perceptions on purpose of, applicability of, and potential advantages of narrowcasting systems for businesses
- Perceptions on success or failure of any known deployments
- Current spending on such promotional vehicles (i.e. out-of-home, visual messaging, POP advertising, printed signage, TV, radio)
- Perceptions on the relative effectiveness of these different vehicles
- Key metrics used in assessing effectiveness of systems or campaigns
- Key concerns with narrowcasting
- Views on the various business models offered
- Plans for deploying or using narrowcasting systems

Corporate IT and Operations Executives (102)

InfoTrends/CAP Ventures conducted a structured survey with 102 corporate IT managers and operations executives. The objective was to obtain quantitative insights from the people who are most knowledgeable about displays used for internal communications and security. Topics covered included:

- What are the typical goals for such systems? Why do companies decide to install them? Who are the key decision-makers?
- What are their decision parameters in terms of display technology, overall design, and installation?

- How much of the effort is with in-house resources versus paid assistance? What types of companies do they typically turn to for assistance? What are their selection criteria?
- What are the obstacles to installing such displays?
- How satisfied are those who have undertaken such projects?

Audiovisual/Display Resellers and Integrators (26)

InfoTrends/CAP Ventures spoke with 26 resellers and integrators specializing in audiovisual systems for retail and corporate applications. The objective was to obtain quantitative insights from the companies that are actively selling, installing, and servicing commercial display systems. Topics covered included:

- What markets and applications are they focusing on?
- How many systems are they moving?
- What is the mix by technology? What are their opinions on various technologies and the suitability for different markets?
- What types of services are they offering?
- Which brands are they selling? What are their opinions of the various brands?
- What other products and software are they selling? How does their business split by product category, software, and services?
- What do they perceive as inhibitors to market growth?
- What are their plans for the future?

Sign Audit (50)

InfoTrends/CAP Ventures conducted a detailed audit of the number and types of signs in a wide range of locations. The intent was to provide a perspective on the use of signage by key factors to help identify and profile the opportunities for various displays and narrowcasting services. InfoTrends/CAP Ventures visited 50 sites in areas such as:

Large chain retail stores	Airports	Restaurants
Medium chain retail stores	Train stations	Theatres
Small chain retail stores	Taxis	Hospitals
Small independent retail stores	Subway, buses	Doctor’s offices
Malls	Hotels	Retail banks
Tradeshows	Bars	Retail brokerages

At each site, we counted and categorized the various types of signs by a variety of attributes, including:

- Number of signs
- Purpose or function
- Size of sign
- Technology or method (printed, backlit, CRT, LCD, plasma, etc.)

We then analyzed the research to develop a signage and display profile.

Project Deliverables

Subscribers receive a variety of deliverables as part of this project, all designed to help with their product planning, business development, ability to attract capital, and marketing activities. All deliverables are available in hard copy and electronic formats. The deliverables include:

- An executive summary that covers the key findings, discusses the key trends, and presents the recommendations
- A detailed written report that describes project methodology; research findings; industry structure and segmentation; customers' experiences, perceptions, and plans including detailed case studies; key industry trends; and conclusions and recommendations
- A market sizing (2003) and forecast (2004-2009) covering hardware, software, systems integration, and network operation/advertising revenues
- Detailed vendor profiles
- Complete data tabulations from the structured surveys of retailers, brand managers, advertising executives, corporate IT managers, directors, and AV resellers
- A set of PowerPoint slides for internal communication of the report findings within subscribing companies is optionally available

Project Schedule

InfoTrends/CAP Ventures initiated this project in May 2004 and published the final report in December 2004.

Project Fees

The fee for the report is $14,995. A personal presentation is available for an additional $2,000 plus direct travel expenses.

For more information on the report, contact Scott Phinney at 781-616-2100, ext. 123 or via e-mail at scott_phinney@capv.com.