

# DIGITAL DIGEST

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## NEW RESEARCH

This market research digest is designed to give you a glimpse of some of the research that Digital Tech Consulting is preparing for publication. Here is some of the research currently available from DTC:

### FEATURED REPORT

**Digital TV Receivers: Worldwide  
History and Forecasts (2000-2010)**

For more information, please visit us online at:  
[www.dtcreports.com](http://www.dtcreports.com).

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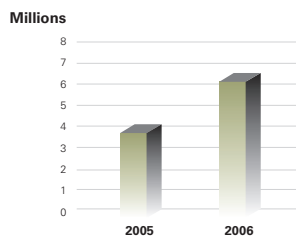
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## The IPTV Transformation: New Services, Providers, and Revenue

After a prolonged infancy, it seems that telco-delivered video services have found their sweet spot with the emergence of Internet Protocol based broadband television systems (IPTV). DTC's most recent research into these services, detailed in our forthcoming IPTV research report, estimates that IPTV subscribers will mushroom from 3.7 million in 2005 to more than 36 million in 2010. Similarly, worldwide subscriber revenues will grow from about \$900 million in 2005, to more than \$11 billion in 2010. (see charts below)

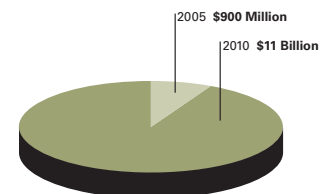
Indeed, literally hundreds of IPTV deployments have taken place around the globe between 2002 and the first half of 2006, several serving subscriber bases now in the hundreds of thousands. Meanwhile, a wave of tier-one deployments from major carriers like AT&T (U.S.), Korea Telecom (Korea) and Bell Canada (Canada) will see commercial deployments before the end of 2007, promising to boost both subscribers and revenues dramatically throughout the decade.

### Worldwide IPTV Subscribers



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### Worldwide IPTV Revenue



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### IPTV Appeal

Telcos have toyed with possible offerings of bundled pay TV services for a decade or more, using various technological means that proved too expensive or too difficult to achieve commercial viability. But the simultaneous enablers of broadband DSL Internet network deployments based on IP architecture, and IP based equipment and software for pay TV networks are what has enabled a truly integrated voice/data/video "triple play" service to become a feasible market reality for a growing number of telcos.

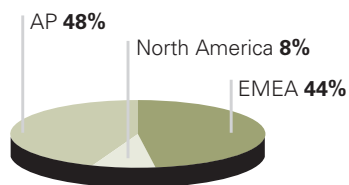
In looking at deployments to date, DTC sees two underlying factors driving growth. First, the ability to add an entire class of services and revenue streams to existing broadband networks is a defense against new competitors in core markets, as well as a powerful tool in gaining customers and increasing average revenues per user (ARPU). FastWeb, in Italy, the second largest IPTV deployment worldwide, is perhaps the best example of this. Originally a broadband Internet and voice access provider, FastWeb has maintained subscriber growth and increased ARPU since its 2002 launch, despite having a number of competitors in its core broadband Internet market.

Continued on next page

Secondly, the flexible nature of an IP network allows operators to implement different services based on their specific needs, capital expenditure limitations, and local market realities. Many systems, for instance Softbank in Japan, are VOD only, allowing subscribers with Internet/Voice packages access to a TV/video library on a pay-per-use basis. This type of system is cheaper to implement, and provides for a limited increase in ARPU based on market demand for such services. In other cases, such as North American deployments, services look much more like traditional pay TV packages from cable and satellite providers. These can be very expensive to implement (when including features like 200+ channels, HD, PVR, VOD, etc.), but also command a high ARPU, while meeting the minimum demands of the competitive market.

So it is the ability to add services, and IPTV's inherent flexibility that have led to a wave of deployments, large and small, by incumbent telcos and broadband ISPs worldwide. The most extensive deployments have taken place in Europe and Asia, with commercial services now offered by national telcos like France Telecom, Deutsche Telecom, and China Telecom, as well as competitive broadband providers like Softbank in Japan, or Free Telecom in France. (see chart)

### Estimated 2006 IPTV Subscribers Worldwide



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#### IPTV Challenges

Our research also makes clear that implementing IPTV services is not without challenge, and not all services will be successful. Many operators are still seeking profitable business models for their specific markets amid a confusing range of service options and equipment vendors.

Regulatory challenges are also common, as previously distinct service categories of voice, data, and video, with specific regulatory frameworks, conflict and blur, complicating and slowing planned service rollouts. Several major telcos, such as those in Korea and India, have seen their commercial deployments stalled as they await regulatory approval to proceed.

#### IPTV Vendors

A wide range of vendors both new and established are staking out their territories in the fertile IPTV value chain, creating a crowded playing field. Traditional pay TV players, such as Harmonic and Tandberg (digital encoders), NDS, Irdeto, Nagravision (conditional access), Thomson, Scientific-Atlanta, and Motorola (set-top boxes/head-end systems) are expanding their expertise into IPTV through both partnerships and acquisitions. Meanwhile, new

entrants include major forces from the telecommunications industry (Alcatel, Nortel) and the IP world (Microsoft, Cisco), as well as new innovators in IPTV technology like Amino (set-top boxes), ANT Software (middleware) and Verimatrix (conditional access), among many others. Successful vendors will be challenged to define and identify their niche in the spectrum of IPTV deployments.

#### IPTV Delivery

The IPTV architecture represents a fundamental shift in the way pay TV can be delivered, which will have vast implications for how and what TV content is carried on pay TV networks. Because IPTV is "IP" at its core, it can also be (and has been) deployed in other networks like power line or cable. So what we will see is that even the traditional cable model—one-way, proprietary, closed broadcast network—will change to the new open, routed, two-way IP model, giving rise to many new types of TV content and services. Already this is evident in so-called "over-the-top" content services, like KyLin TV or Akimbo, which use the public Internet to deliver content to IPTV STB enabled homes. Certainly these types of content are in their very early stages, but offer a hint of the type of new innovations that will transform the pay TV landscape over time.

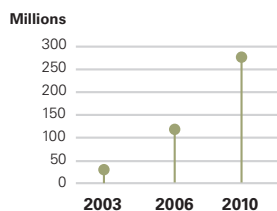
*DTC's up coming report on the business of IPTV delivers a comprehensive analysis that includes worldwide subscriber, set-top box and revenue forecasts, detailed business models and the market share positions of IPTV vendors. For more information, please call Myra Moore at 214.915.0930, ext. 1.*

## Terrestrial TV to Fuel Digital TV Receiver Sales

It took a full decade for digital receivers to reach their 2003 shipment volumes of nearly 40 million annually. But DTC's newly published Digital Television Receivers report, cataloging historical data and DTC forecasts for worldwide digital TV shipments, suggests a steep incline is in store for that growth curve, driven by global deployments of both established and emerging platforms.

Since the first introductions of digital TV in the early nineties, via DTH satellite and cable, digital deployments have proliferated worldwide, driving annual shipments of digital receivers to 119 million in 2006 (see chart below). By 2010, shipments will more than double, reaching 268 million shipments.

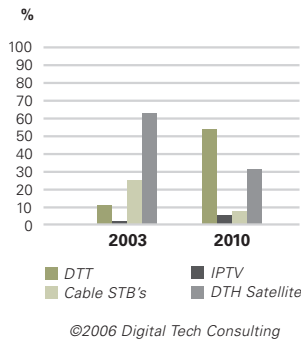
### Worldwide Shipments of Digital TV Receivers



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Though DTH satellite has been the most widely embraced digital delivery platform (accounting for more than 63 percent of shipments in 2003), with cable a rather distant second (at 25 percent), this picture will change dramatically by the end of the decade. As world regions transition analog terrestrial broadcasts to digital, Digital Terrestrial TV STB shipments will make up an increasing share of the total, rising from just 10 percent in 2003, past 50 percent in 2010 (see chart below). Telco-IPTV will also see growth in its share, though it will remain a sliver of the total, rising from less than one percent in 2003 to nearly 7 percent in 2010.

### Worldwide STB Shipments by Broadcast Platform



DTC's recently published report, *Digital TV Receivers: Worldwide History and Forecasts (2000-2010)*, offers a data-intensive look at the digital TV receiver market with detailed units-shipped estimates, and regional and vendor market shares. For more information and a detailed table of contents, please visit <http://www.dtcreports.com/research.aspx>

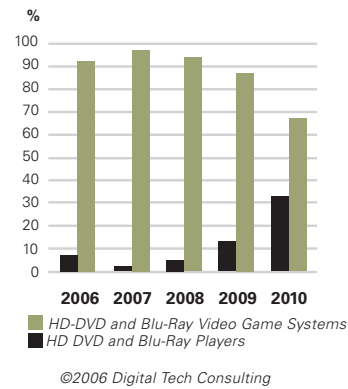
## New Video Game Systems are Bright Spot in Blu Ray and HD-DVD Adoption

With the Blu-ray bundled PlayStation 3 and external HD-DVD Xbox 360 drive launching in time for the holiday shopping season this year, both high-definition (HD) disc camps hope to capitalize on the early growth stages of the cyclical video game market to give their format an edge.

Of all 2.1 million Blu-ray and HD-DVD drives that we expect to ship this year in the United States, we estimate that 93 percent will be PS3 or the Xbox 360 external HD-DVD drives, while dedicated set-top HD Players like Samsung's BD-P1000 make up the 7 percent balance. By 2010 the ratio will change slightly as the new video game systems reach the tail end of their growth cycle, and as more United States households become HD capable.

The above is from DTC's upcoming report *U.S. HD Delivery Platforms to the TV* which also includes forecasts for US HDTV HHs by and HD STB shipments for DTH satellite, cable, terrestrial and telco TV services.

### US Non-PC HD Disc Device Shipments 2006 - 2010

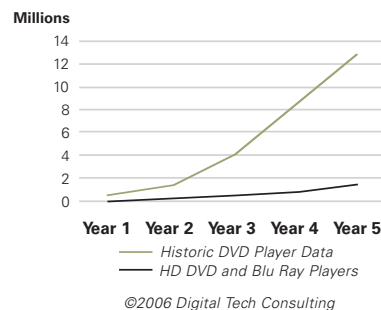


By the last year of our forecast, we expect that dedicated HD Players will account for only 32 percent of the total United States Blu-ray and HD-DVD device shipments. The chart above tracks United States shipments of non PC HD Disc devices from 2006 to 2010.

Despite the abundance of hype, DTC does not expect a dramatic proliferation of HD disc products. The ensuing format war and the lack of HD capable households will dampen demand for the new HD disc formats. Lack of HD households is unlikely to affect demand for next generation videogame systems, however, as these are primarily purchased for game playing.

Although the HD formats promise much greater resolution over the DVD format, the value proposition isn't quite as compelling as that of switching from VHS to DVD. Not only did DVD deliver higher-quality digital video and audio over its analog cousin, it also included random access, and bonus programming. In addition, a format war didn't get in the way of consumers trading in their VHS decks for DVD devices. The "smaller" HD disc value proposition could keep consumer enthusiasm low, at least until there is a higher installed base of HD TV displays on which HD disc programs can be viewed.

### Forecasted U.S. HD Disc Player Shipments vs. DVD Player Shipments: The First Five Years



Note: Dedicated set-top shipments only; excludes video game systems and PC systems.

## ABOUT DTC

*Digital Tech Consulting is a market research firm providing strategic information and analysis to help companies succeed in the consumer digital marketplace. To learn more about DTC and how our analysts might help your company, please visit us online at [www.dtreports.com](http://www.dtreports.com) or call 214.915.0930.*

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