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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

The Second Edition of The Business of Digital Copyright: Content Protection and Management in the Consumer Digital Era

For more information, please visit us online at: www.dtreports.com.

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Publisher

Myra Moore

Editor

Antonette Goroch

Contributing Analysts

Antonette Goroch

Lucas Graves

Myra Moore

Steve Vonder Haar

Stewart Wolpin

214.915.0930

Fax 214.915.0931

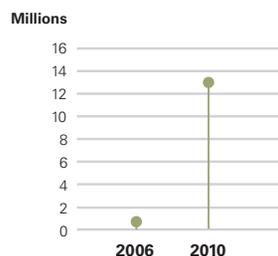
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Mobile TV: Vast Potential Ahead, but Challenges Remain Before Ready for Prime Time

It's not difficult to conclude that many United States consumers will find mobile broadcast video appealing despite skeptics' declarations that small screens are ill suited for watching television and other entertainment programming. The timeline for mass market adoption of mobile video is less certain, however. Key challenges of adopting content protection, creating innovative business models and implementing technology standards must still be addressed before its full potential can be realized.

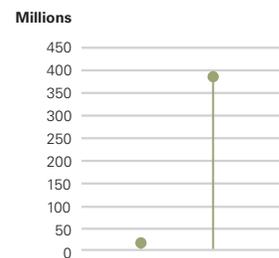
Common-sense examples from around the world reinforce the appeal mobile TV might one day have. Personal multimedia players like Apple's video iPod are mushrooming in popularity with sales expected to jump tenfold between 2006 and 2010 (see chart). Downloads of the limited catalog of corresponding video content have seen similar appeal. Meanwhile MPEG-4 AVC video handsets are forecast to ship nearly 10 million units in 2006 - a number which will rise to nearly 400 million units by 2010 (see chart). New mobile services are also gaining traction, such as MobiTV's announcement of 500,000 subscribers, and emerging adoption of 3G and Digital Multimedia Broadcasting (DMB) video services in Japan, Korea and Europe.

Personal Media Player Forecast



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AVC Video-Capable Handsets (play and/or record)



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Standards, DRM, and Alternative Business Models Still At Issue

The North American adoption of mobile video technology will likely follow the same path of text messaging first popularized in Europe and Japan. It will be big. It will be big, that is, as long as the burgeoning industry effectively addresses some key business and technology issues - standards adoption, digital rights management (DRM) and the willingness to adopt alternative business models. The examples of 3G and DMB services are instructional. The United States mobile telephone market has historically been one step behind Europe and Japan. *Continued on page 2*

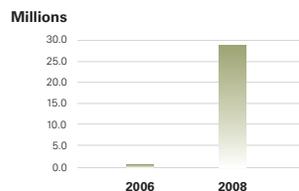
As digital video content proliferates across more technology platforms, the ability to view content on multiple devices becomes critical. As time shifting becomes second nature to consumers, so will device shifting. Therefore, the ability to "port" content on to multiple devices will greatly rely on the industry use of standards - whether they are deliberately designed or are de facto standards. The inability to view a Windows Media Video-encoded file because a device will only play back MPEG-4/H.264 files, is just one example of how the lack of interoperability could hinder this nascent market.

Standards adoption is equally important in the realm of DRM. Purveyors of high-value content won't make that content portable unless they feel it is secure. Today's mobile video services and the devices that play back their programming don't necessarily require DRM or content protection, but that won't last long. There isn't a digital consumer-video platform - from digital camcorders to DTH satellite set-top boxes - that doesn't have, or will soon have, storage capacity. Mobile phones and TVs will be no different. This, among other factors, will require DRM implementation.

Again, the use of a technology standard - whether it is ultimately a proprietary standard (read: Windows Media DRM) or the open OMA DRM standard - will go a long way to promoting interoperability among media and devices.

And it is not yet apparent that a single transmission technology will deliver all mobile video services in the United States. Qualcomm's MediaFlo technology, designed for 3G cellular networks, is the primary proprietary solution, while DVB-H, designed for digital terrestrial television transmission, is an open standards solution. Given that it is a reasonable option, markets almost always choose open standards when adopting new technology. But because these options operate over two distinct infrastructures there will be other factors considered when service operators choose a transmission technology, such as infrastructure costs and spectrum availability. DVB-H with its advanced technology trials, backing from Nokia and adoption by Crown Castle for United States services, appears to have a head start. Indeed, DTC's most recent research into DVB-H suggests that handset shipments will jump from just 200,000 in 2006 to nearly 30 million by just 2008 (See chart below).

DVB-H Receiver Shipments



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Experimentation with business models will also be key to jump-starting the market. The traditional "additional fee for a premium subscription package" business model

employed by cellular network providers might induce the dreaded "consumer sticker shock" response. Non-traditional business models, such as advertising-supported services or "pay-per-view" or "download" fees, might be a primary key to success of this new market.

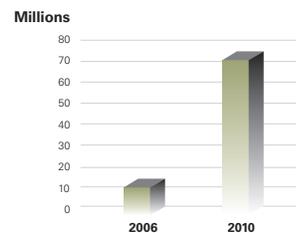
A version of this article appears in the April issue of DVB Scene.

ATSC Receiver Shipments Ramp Up As U.S. Analog Shut Off Deadline Nears

The recent passage of the Budget Reconciliation Bill (S. 1932) on February 8, 2006, in which DTV legislation was inserted including a February 17, 2009 hard deadline for the end of analog broadcasting, marks another milestone that will boost sales of digital terrestrial (DTV) receivers in the United States.

The ATSC (Advanced Television Systems Committee) DTT standard is the main benefactor of this legislation and DTC's research on the worldwide DTT market identifies the United States as the runaway leader in ATSC receiver sales although Korea, Canada and Mexico have also adopted the standard. Indeed, unit shipments are forecast to jump from just over 11 million in 2006 to nearly 75 million in 2010 (see chart below). Although this forecast includes stand-alone set-top box receivers, aftermarket PC ATSC tuner cards and digital recording devices with ATSC receivers, the majority of units will fall under the digital TV with ATSC receiver category.

ATSC Receiver Shipments

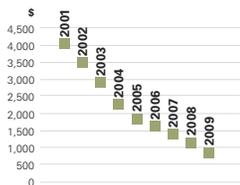


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As part of the legislation, lawmakers have authorized up to \$1.5 billion in the form of coupons that can be applied toward the purchase of digital-to-analog converter boxes. This was done in part to reduce consumer backlash over the forced transition and subsequent obsolescing of current equipment. Further mitigating possible backlash will be the ability of consumers to continue receiving analog broadcasts over cable networks, though this too will change as cable operators will be forced to carry the digital broadcasts over time. *Continued on page 3*

The analog broadcast shut-off date will spur enough movement in the nascent market, however, to begin the cycle of increasing unit sales and decreasing prices necessary for mass market adoption of digital TVs with ATSC receivers. DTC's research suggests that average retail prices for such units will drop more than 80 percent from highs of more than \$4,000 in 2001, to under \$900 by 2009 (see chart below).

Average Retail Price of Digital Displays with ATSC Receivers



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DVD Software Sales Remain Strong as Hardware Sales Dip

Despite the slow down in non-PC DVD device sales, prerecorded DVD software continues to log steady growth with nearly six billion units forecasted to ship in 2006. Although some market watchers predict an immediate downturn in software sales, DTC forecasts healthy growth through 2008.

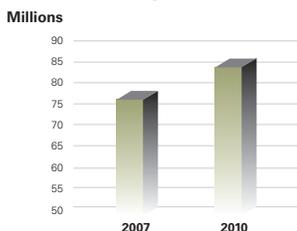
Dropping software retail prices, consumers embracing DVD ownership and the lack of hardware saturation in minor regional markets are contributing factors to the software's bright prospects for the immediate future.

DVD Set-top Shipments Beginning to Slow

Most major markets, such as the United States, Western Europe and Japan, have reached peak levels of hardware household penetration with most DVD device sales falling under the replacement units and multiple sets category. Meanwhile, the first rollouts of High Definition (HD) optical disc devices will likely be purchased as replacement units for installed DVD devices.

DTC's recent research suggests that while shipments are still robust today, annual shipment growth will slow dramatically in the latter part of the decade, with shipments of DVD devices (non-PC) forecast to rise less than 10 percent - fewer than 10 million units - between 2007 and 2010 (see table below).

Non-PC DVD Device Shipments

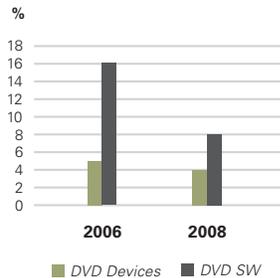


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DVD SW Shipment Growth Still Holding

Some have suggested that DVD software shipments will log a steep decline in response, as consumers begin to focus on building their HD optical disc libraries. While this is certainly true over the long term, DTC expects this decline won't be evident for several years. As the chart below suggests, DVD software is expected to see unit growth of some 16 percent during 2006 and 8 percent in 2008 (compared to DVD hardware devices of 5 percent and 3 percent, respectively).

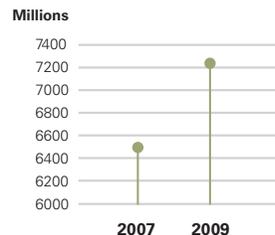
Growth Rates: DVD Devices vs. DVD Software



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Indeed, DTC expects annual shipments of DVD software units will still rise by some 1 billion units between 2007 and 2009 before seeing the first negative growth rates in 2010 (See table below).

Prerecorded DVD SW Unit Shipments



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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 or call 214.915.0930.

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