

HDTV is all set to make a grand entry.

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With its newfound acceptances a standard format in the mainstream market and rapid consumer uptake, high definition technology has reached a tipping point. It offers you a picture resolution comparable to a 35mm movie screen. Along with CD-quality sound in a widescreen format, high-definition television, or HDTV, ensures movies on channels don't have the jarring black bars on the top and bottom of the screen. With all these advantages packed into one, HDTV is all set to make a grand entry in India by the year-end. Broadcasters, such as INX Media and STAR TV, are already producing content for HDTV. Consumer electronics companies, such as Samsung, are already selling over huge HDTV sets. Samsung currently sells 60 % full HD LCD TVs out of the total LCD TV sales made in an year. " Next year we expect Full HD to be about 80 % of our LCD TV sales," Ravindra Zutshi, Deputy managing director, Samsung India Electronics Pvt. Ltd added. Samsung would help Sun Direct in below the line promotion of the new service. The company has about 400 Samsung exclusive stores across India where the Sundirect set-top-boxes would be promoted along with Samsung HDTVs.

Doordarshan, India's public sector broadcaster, has set aside an amount of Rs. 1209 crore of a total approved outlay of Rs. 1369 crores, just for HD. According to Ambika Soni, the Minister for Information and Broadcasting, the work will involve digitization of existing studios, establishment of digital transmitters, replacement & augmentation of old studio, transmitter & satellite broadcast equipment & setting up of HDTV facilities. Two HDTV studios will be established by Doordarshan in Delhi and Mumbai, and field production and post production facilities in four metros. The HDTV uplink will be set up at Delhi, and HDTV terrestrial transmitters will be installed in four metros. Remember that Doordarshan expects to broadcast the 2010 Commonwealth Games in Delhi on HDTV.

Chennai based, DTH operator Sun Direct TV Private Ltd, is expecting to add over 45,000 subscribers to its newly launched definition television service by the March 2010. Speaking at the sidelines of the launch, Tony D'Silva, COO, Sun Direct said, "We have about 1,000 customers on our HDTV platform, which was launched on a trial basis in April this year, we hope to get in about 45,000- 50,000 HDTV subscribers by the end of this fiscal." Also Direct-To-Home operators Dish TV and Reliance Communications are planning to offer HD TV set top boxes, though at a premium.

In World, Ofcom noted a huge increase in consumer HD subscriptions, particularly in the UK, US and Canada and analyst house Screen Digest has predicted that by 2012 HD-readiness will stand between 75% and 100% in developed markets. Up until now, HD televisions and channels have been primarily targeted at premium, high income customers. But as uptake accelerates, HD will soon become a mass-market product. As with so many not without its challenges. With consumer adoption and demand growing at such a rate, broadcasters, content owners and providers are faced with the daunting task of converting thousands upon thousands of hours of video content held in multiple legacy formats to HD. In order to meet consumer expectations, stay competitive and provide a range of content options, it is imperative that they must convert content up to HD without compromising the quality of the master.

Rising to the HD challenge

As more and more consumers invest in digital or LCD televisions, they will begin to expect near-perfect HD picture quality as standard – putting pressure on both broadcasters and content providers to deliver high quality video content. Broadcasters will face increasing competition based on the quality of their image and the variety of content they deliver, and those who offer a sub-standard viewing experience will suffer. With increased delivery channels diluting audience figures, a company's reputation for quality will become crucial for it to remain competitive. As such, broadcasters must ensure that the material they air is perfect each and every time it is viewed, no matter what platform or format it is viewed in. Content owners are faced with the added pressure of transforming video content held in legacy formats into formats which work across today's diverse media channels, from the internet to VoD, to cable and mobile devices. In this new digital media age of multiple delivery channels, new content producers have appeared and the rules of competition in the industry have changed. With multiple delivery channels for consumers to choose from, audiences now expect more video content via the internet as well as their usual cable, satellite and digital TV sources.

A recent study by research house User Analytics demonstrated the massive consumer demand for video content on a range of platforms. Of those questioned, 93% said that they watch video content on their home PC or laptop, while almost half (49%) said they watch video on their portable media player or mobile phone. With more channels on offer, it is inevitable that fewer hours will be spent watching each one. This presents content providers with the challenge of up-converting more content to an HD format for delivery channel. They must also reduce video content file size without losing image quality and deliver content for each channel at a lower cost in order to maximize revenue potential. When converting video content up to HD, it is also imperative that the master is of the highest quality. Any copy of any content created will automatically inherit the problems of its

parent – problems that might not even seem apparent to the naked eye, but which might compromise the quality of the output. As such, it is vital that the solution that content owners use to up-convert their content is able to detect such glitches. Whether or not a content owner is subject to a service level agreement, they are responsible for maintaining the integrity of valuable brand assets. Content owners are also tasked with up-converting video content to HD while remaining cost effective, particularly in light of the current economic climate. In order to keep costs down, companies need to be able to ensure the maximum quality at the minimum bit rate for their output. This is crucial to lower the cost per deliverable, ease delivery system requirements, reduce the bandwidth that content consumes and enable users to download high-quality media content more quickly and costeffectively through the internet and mobile networks. In addition, companies must limit the number of staff involved in the upconversion process to keep operating costs down.

'Up-convert' video content.

Content owners must up-convert their video content to the very highest HD standard picture quality in order to maintain their reputation and market position. However, up-converting content to HD is not just about producing copies more costeffectively, reducing encoding errors, automating more so employees have to work less, repurposing content to new media distribution channels or offering better quality at lower bit rates: it is about all those things. This is why many content providers and broadcasters are looking to effective software solutions to address these challenges.

Indian Content owners and broadcasters have already jumped on the bandwagon. Peter Mukherjea, chief strategy officer, INX media, said, "It might be 30% to 50% more expensive to produce HD TV content but we have decided to make the switch with our news channel. For a news-based channel, it does not make sense to buy equipment that is not HD TV-ready." Star TV is also taking steps in this direction. Star plus official, said: "Many upcoming shows on our channel will be made in high-definition. We are experimenting at the moment and, based on the response, we will consider the move for other shows, too." Regional broadcasters are also cashing in on the technology. Andhra Pradesh Chief Minister Y S Rajasekhara Reddy's son, YS Jagan Mohan Reddy, is launching an HDTV news and current affairs channel.

Transcoding software can help content providers up-convert their video content quickly and easily with high quality standards in order to meet the demands of today's market. These solutions can offer a full range of quality control (QC) functions that would be difficult or impossible for an operator to carry out manually with consistency. Automated QC measures include video and multi-channel audio levels, compression performance, bit rates, metadata and content legality. Software with a reliable ingest process can also ensure there are no dropped frames or other quality issues. Previously, such requirements have inhibited integrated HD workflows and prevented content owners from maximizing the true revenue potential of HD. In addition, as HD becomes more commonplace, there are some content owners who need to convert their HD files down to standard definition. Some solutions are available to do HD and SD up, down and cross-conversion, while also changing audio rates. Simulcast operations are often regulated in some territories and require that both the HD output feed and the SD output should be of high quality and generate their appropriate revenue by attracting audiences. Interworking issues such as different HD and SD picture aspect ratios make this a complicated business that requires automated software to get right.

In the face of a recession and in an industry where time is money, automated software helps maximize the speediness and efficiency of workflows in a range of ways. There may be a number of challenges facing content owners when up converting video content, but suitable software solutions can offer a way into the growing market for HD content. They can also enable businesses to stay ahead of the curve and cultivate a reputation of quality, both vital in an increasingly competitive market where those who do not stand out from their competitors risk failure. Those companies who do embrace technology to effectively address the challenges of HD lay the path for greater profitability and bigger market share.

Wrapping up

Experts say the push to HDTV has been prompted by the government's decision that the 2010 Commonwealth Games will be broadcast only in high-definition. As a result, Doordarshan, which is also expected to launch HDTV on an experimental basis this year, has stated it will produce content for the Commonwealth in this format. HDTV technology, which was made commercially available in 1998, has spread across the globe so much so that the US government has set year 2009 as the deadline to shut off the usual over-the-air analog broadcasts.