3Droundabout

NABSHOW — Where Content Comes to Life

APRIL 2012

STEREOSCOPIC 3D PRODUCT & TECHNOLOGY NEWS

Welcome to the 3Droundabout supplement for the 2012 NAB Show. This serves as a quick reference to products, exhibitors and conference sessions at NAB for stereoscopic 3D content creation, delivery and display. Further coverage can be found at **3Droundabout.com/3d-nab-2012**.

3D may not have taken off as quickly as the hype led many to expect, but the rate of sales of 3D-capable TV sets is outperforming that of HD sets when they were introduced, and 3D is migrating to many different platforms and applications. The future is not flat, and the proponents of 3D are committed to increasing the take-up of this fabulous technology, of which there is plenty to see at this year's NAB Show.

For acquisition there are cameras, rigs and supports, and connection systems. Getting 3D right is critical, so it is no surprise that there are numerous calibration and analysis tools on offer. Higher frames rates and resolutions are also being supported, as well as greater control over depth grading, and enhanced 2D-to-3D conversion tools. For creation there are switchers, graphics systems, playout servers, monitoring systems, and post production systems, with many offering improved workflows and integration with other products. For delivery and display there is a range of interesting solutions to be seen, including the world's largest glasses-free 3D projection system. Whatever your 3D requirements, we hope this helps you find the right solutions. Have a very enjoyable 3D NAB Show!

Rigs and Supports

P+S Technik (stand C9733) is launching its newly-designed PS-Micro Rig. According to the company, this is the smallest and most lightweight, stable and quick-to-set-up 3D rig on the market, and is available at a very attractive price. The PS-Micro Rig is compatible with any type of micro camera such as the Silicon Imaging SI-2K or the SinaCAM small remote head HD studio camera. It enables the capture of professional stereo 3D motion and is optimised for close-ups. It is also balanced for Steadicam use and is compatible with a wide range of accessories from P+S Technik and other third party manufacturers.

Stereotec (Bavarian Pavilion stand C8746) is presenting its new small mirror rig called Nano, as well as its established Mid Size Rig with an autoalignment solution, complete 11-axis motorisation and live 3D playback. In addition, the new Stereotec Light Weight Rig for Steadicam and handheld operation is being shown by **Sony (stand C11001)** in a live 3D playback demonstration with direct connection and control by the Sony MPE-200 stereoscopic images processor.

Parazzio.com USA (stand L107) has a new line of camera support systems and stabilisers called Parazzios. These provide the ability to mount multiple cameras and accessories for 3D, and simultaneously record high-resolution photo and video, all from a tripod or from handheld operation.

K-Tek (stand C83250) is also showing camera supports. The Norbert Sport Jr is designed for use with smaller cameras such as the GoPro single camera and the GoPro 3D system. It is made from machined aluminium with padded graphite side handles for easy and smooth handheld operation.

Acquisition

Vision Research (stand C7843) is announcing its latest high-speed camera, the Phantom v642. This can record and playback ultra-slow motion footage simultaneously, while accurately colour matching regular-speed broadcast cameras.

Having recently been acquired by 3D Visual Enterprises, **Meduza Systems (stand C12030)** is launching the Titan camera. Primarily designed for TV, Titan uses 2K global shutter sensors and can output both 1080p and 2K. It supports speeds up to 60fps, with 120fps to be confirmed.

Sony (stand C11001) is showing the PMW-TD300 shoulder-mount 3D camcorder and the HXR-NX3D1U NXCAM compact

3D Exhibitor List

(Visit 3Droundabout.com/3d-nab-2012 for updates.)

3D camcorder. The company is also offering the multiformat MVS-7000X 3D-capable switcher.

3ality Technica (OE1371) is introducing retrofit body replacement panels for the Sony PMW-F3 camera that ruggedise it and provide various standard mounting points. Also on show are IntelleCal for automatically aligning two cameras on a 3D system, and IntelleCam that automatically manages S3D for comfortable stereo when live shooting.

In addition to the AG-3DP1 P2-based HD shoulder-mount 3D camcorder featuring full 1920x1080 resolution AVC-Intra recording, **Panasonic (stand C3607)** is showcasing the HDC-Z10000. This handheld 2D and 3D camcorder is AVCHD 3D/progressive standard compatible.

For POV-style ultra slow motion, **LMC LiveMotionConcept (stand C12042)** is releasing the Antelope PICO camera with a head that measures just 29x29x50mm. The camera supports 3D, and has an integrated frame buffer that records up to 330fps or 660fps in extended mode, in native HD1080i.

I-MOVIX (stand C4644) is launching the X10 streaming ultra-slow motion system. Designed for use with the EVS XT3 live production server, the X10 delivers 300fps real-time continuous streaming in 1080i (600fps at 720p), and supports 3D production.

In addition to showing the HD HERO2 low-cost compact camera that supports 1080p HD, **GoPro (stand C3628)** is showing the Wi-Fi BacPac for remote control, and CineForm Studio Professional editing software for Mac and Windows platforms. CineForm Studio Professional supports advanced 3D correction and a wide range of consumer and professional 2D and 3D video cameras, with independent eye control for professional 3D camera rigs.

OB and Connections

TV Pro Gear (OE1425) is displaying the 3D Flypak, recently built for Wealth TV to shoot Don King Boxing matches for ESPN. The Flypak is a fully functional production studio in a package small enough to fit through a standard doorway, and is built around Sony PMW-TD300 shoulder-mount 3D camcorders.

Bittree (stand SU6519) is showcasing an advanced range of patchbays and patching solutions for more flexibility in rapidly-changing media environments. Its Micro-Video high-bandwidth video patchbays are suited to 3Gbps and 3D productions, HD/SDI, SD/SDI, AES, and high-resolution computer graphics.

For low-latency wireless camera connection, **Broadcast Sports Inc. (BSI) (stand C7849)** is offering the Dual Stream Mini Transmitter. Designed to be lightweight

and as small as a cell phone, the transmitter provides a synchronous signal from the left- and right-eye cameras.

Monitoring & Analysis

Transvideo (stand C7240) is introducing the Cinemonitor 3DView S 3D production monitor. This accepts two HD-SDI and two HDMI inputs and up-converts these into HD-SDI outputs. The built-in synchroniser genlocks the two signals which are then available on the two SDI processed outputs. The built-in phasemeter gives the pixels and lines sync information before genlocking. The monitor displays the two separate inputs combined in the 3D view, Side-by-Side or in adjustable Split-Screen configuration, and offers mux/de-mux functions. Viewing modes include: colour, black & white, monochrome, three pre-set and one programmable anaglyph modes; shutter glasses, adjustable checkerboard, and six difference modes with adjustable threshold.

Among the 3D cards and mini converters on show from **AJA Video (stand SL3305)** is the Hi5 3D mini-converter. This enables simple and cost-effective monitoring of stereoscopic 3D footage by combining two HD-SDI inputs into various multiplexed 3D formats for output on HDMI 1.4a and HD-SDI.

Colorfront (stand C10308) is showing its On-Set Dailies system for reviewing dailies using 3K/4K/5K/8K digital cinema cameras. The new Winter Release supports Sony F65 RAW, RED Epic R3D and Alexa ARRIRAW 4K workflows. It delivers RAW, DPX and 16-bit TIFF file format support for 2D and 3D stereoscopic projects shooting at 48/60fps.

TestVid (stand N3719) has developed video test sequences specifically for testing video codecs and other broadcast equipment. The sets cost between US$1499 and $2199 and the license allows them to be used not only for test, but also for demonstrations, exhibitions and on websites. Designed for broadcasters who need to check out broadcast equipment and test functionality prior to purchase or after installation, as well as equipment developers, the video sets each comprise over 60 pairs of uncompressed Left+Right video, with associated audio. There are sets for USA, Asia, Asia/Europe and Europe, covering almost all 3D formats including 1080p60, 1080p30, 1080i30, 1080p50, 1080i25, 2Kp24 and 720p60.

Stereolabs (stand C11441) is presenting PURE Onset, Commander and VERITY - a new range of products designed to simplify 3D production and automate stereo quality control. PURE Onset is the first stereo analyser running on a MacBook Pro, and is aimed at film and video professionals who need quick and precise rig alignment. Commander is a 1RU master control system that provides the ability to monitor and control up to eight 3D

camera positions from one single location. VERITY is automated quality control software for file-based stereo video. It performs extensive checks of video files and provides log reports that outline any geometric, colour or depth error in the footage.

DSC Labs (stand C10515) has a camera test chart that it says rapidly identifies setup errors in 3D production, potentially diminishing eyestrain. The 3-DZ consists of five LED lights that provide basic frame alignment, and can be used to set interocular distance and convergence.

Omnitek (stand SL8424) is previewing V2.4 of its OTM and OTR waveform analyser and test signal generator systems. These assess vertical alignment, camera roll, zoom level, image sharpness, colour gain and lift by comparing two images. In the case of 3D images, comparisons can be made both between an individual camera and a reference image and between left- and right-eye camera images. The comparison also gives depth range information.

Deltacast (stand SL8006) is announcing the TPG-1000 test pattern generator. It generates SDI streams (SD/HD/3G), supports 3D and can be genlocked. It manages many patterns, including custom user ones, can be remotely controlled and offers a touchscreen graphic interface.

Tektronix (stand N1023) is showing the WFM7200 waveform monitor and WVR7200 rasterizer. Both support an extensive list of

Dual Link signal formats as standard, and have field upgradable options to add support for high frame rate (1080P 50/60) formats and 3D formats.

Cel-Soft (Leader Instruments stand C6016) is showing new features for its Cel-Scope3D stereo analyser. Version 2 includes additional graphical disparity scales for common parameters such as depth range, rotation errors, vertical mismatches and luminance imbalances.

A 3D test pattern generator is available from **Doremi Labs (stand C9533)**. The GENeration3D features a pre-loaded internal 3D pattern, as well as custom user-generated 3D patterns that can be loaded via an SD card. Also on show is the Dimension3D 3D format converter.

Production and Playout

Convergent Design (stand C9918) is showing the Gemini 4:4:4 recorder which supports 3D and now Avid DNxHD. The recorder features uncompressed RGB 4:4:4 (with log support) for high-end productions, with the option to switch to the Avid DNxHD codec for less demanding work.

For on-air graphics control **Chyron (stand SL1510)** is showing Lyric PRO 8.1 graphics creation software. This now supports web-enabled control over Lyric messages and playout, as well as native support for stereoscopic 3D, scriptless transitions, and touchscreen-enabled graphics.

Also offering on-air 3D graphics is **WASP3D (stand SL8827)**. The system is being demonstrated with a touchscreen-based presentation tool, a tracked virtual set, and the WASP3D character generation tool for stereo 3D productions.

Snell (stand N1820) is introducing the Kahuna 360 Compact, a smaller-frame version of the Kahuna 360 video switcher that supports migration from SD to HD to 1080p and 3D. It is aimed at live production environments and offers true 1080p switching in a 6RU chassis.

Matrox (stand SL5115) is showing its MC-100 mini-converter unit supporting a wide range of display resolutions through 3G, Dual Link, HD and SD-SDI. It can also be used as an HD-SDI switcher, a distribution amplifier, a multiplexer and a 3D processing unit.

DVS Digital Video Systems (stand SL6815) is showing the CinePlay video board for playout as specified by the DCI (Digital Cinema Initiative). Equipped with two HD-SDI inputs, two HDMI links and decompression hardware. A single CinePlay board can play out 3D material in 2K 4:4:4 at 24fps for each eye.

The **Bright Technologies (stand SL8410)** DataMover file management tool now supports HyperFS, a file system that simplifies the management of large files, while providing high-speed, low-latency file access across global repositories. In

Conference Sessions

Saturday 14 April 2012
• Cinema Sound Advances
Conference: Technology Summit on Cinema
Location: Room S222 Time: 15:15 – 16:15
• Laser Projection
Conference: Technology Summit on Cinema
Location: Room S222 Time: 16:15 – 17:45
• 3D Workflows with Grass Valley
Conference: Post | Production World)
Location: Room S222 Time: 17:00 – 18:30

Sunday 15 April 2012
• 3DIY: Toolsets for Independent 3D Filmmaking
Conference: Technology Summit on Cinema
Location: Room S222 Time: 08:45 – 09:45
• Keynote: How Creativity and Technology Merge to Influence Storytelling and Film
Conference: Post | Production Work
Location: Room N249 Time: 10:30 – 11:30
• Keynote - A Change Is Gonna Come – In fact, It's Here
Conference: Technology Summit on Cinema
Location: Room S222 Time: 13:45 – 14:30
• High Frame Rate Stereoscopic 3D
Conference: Technology Summit on Cinema
Location: Room S222 Time: 16:00 – 17:30

Monday 16 April 2012
• CAMERON | PACE GROUP: The Secrets Of Making 3D Profitable
Conference: Super Session Series
Location: Room S222 Time: 10:30 – 11:45
• Titanic to 3D: 279,360 Frames
Conference: Creative Masters Series
Location: Room S222 Time: 12:15 – 13:15
• The Brave New World of Filmmaking with Digital Technologies
Conference: Creative Masters Series
Location: Room S220 Time: 13:30 – 14:30

Tuesday 17 April 2012
• Shooting 2D for a 3D World
Conference: Post Pit
Location: Stand SL14805 Time: 16:20 – 16:40

Wednesday 18 April 2012
• Any File Any Style
Conference: Post Pit
Location: Stand SL14805: 11:00 – 11:20

Thursday 19 April 2012
• Broadcast 3DTV
- Enhancing the 3D TV Experience through Next-Generation 3D Audio Coding and Processing Technology
- High-quality 3D Baseball Games Broadcast Live using Stereoscopic Image Capturing, with real-time 3D CG Overlays to Ease Visual Fatigue of the Viewing Audience
- SMPTE & 3D: Making It All Work Together
- Advanced ATSC Service with MPEG-4
- Transmission of Second Generation of 3DTV: Challenges, Risks and Opportunities
- Depth Based Trifocal Systems, a Flexible and Efficient Way towards Broadcast 3DTV
- The Importance of Testing 3D Content for Broadcast
- 200-inch Glasses-free 3D Display with Wide Viewing Area
Conference: Broadcast Engineering Conference
Location: Room S228 Time: 09:00 – 13:00

addition, DataMover's file-format-agnostic 3D Stereoscopic Optimizer allows 3D frames to be merged for optimised playback in one contiguous stream.

Dulce Systems (stand SL13015) is introducing the PRO Density-e storage array designed for 3D and 4K real-time applications. The disk array system reads and writes at 6400MB/s and features the latest SATA, SAS, and SSD technology.

Accusys (stand SL13413) is showing high-speed data access and storage solutions capable of supporting stereoscopic 4K video. The demonstration features A12S2-PS 2U rackmount PCIe 2.0 RAID systems connected to a Linux workstation running FilmLight software.

PlayBox Technology (stand N5834) is presenting the AirBox that allows SD, HD and 25fps or 30fps video formats and different outputs such as SDI, analogue, IP streaming, etc. to run at the same time from a single AirBox playout server. The system also offers 3D support for playout and subtitling.

Abekas (stand SL15150) is showing the Mira instant replay server. This 3RU unit is designed for SD/HD and 3DTV productions and features 4 or 8 digital video channels.

Post Production

With a mission to 'Edit Anything' **Grass Valley (stand SL106)** is demonstrating the latest version of EDIUS high-definition nonlinear video editing software. Version 6.5 sports an advanced codec, multiformat file support and unparalleled speed, and offers a comprehensive 3D editing workflow and native support for raw footage captured with digital cinematography cameras from RED Digital. A special systemised EDIUS version, based on EDIUS 6.5, will take full advantage of the proxy files created and stored on the Grass Valley K2 Summit 3G server, enabling users to develop even tighter integration with the Grass Valley STRATUS media workflow application framework.

emotion3D (stand C9508) is showing new features within its Stereoscopic Suite X1 (SSX1) post production software. Tools for depth grading now include a single slider that allows stereographers to stretch or squash the 3D space (parallax), while another controls the extent of the pop-in/pop-out effect (convergence). The software automatically generates and depicts the minimum/maximum depth values along the timeline. Additional features enable post-producers to visualise from above how a scene will be perceived relative to the screen plane and the recommended pop-out/pop-in limits for the target viewing environment such as IMAX, cinema, home theatre, TV etc. The tools are available as plug-ins for Adobe After Effects and openFX-compatible host applications such as The Foundry NUKE and Sony Creative Software Vegas Pro.

Quantel (stand SL2415) is unveiling what it claims is a 'revolution in high-end post' with its new Pablo high-end colour and finishing software. Taking advantage of multi-GPU processing, the new Pablo will be available as both software-only and COTS (Commercial Off The Shelf) based turnkey systems in a range of configurations. All systems are fully stereo 3D capable and support the new Neo panel. Pablo now offers a 48fps timeline, and a new interactive, multi-layer stereo 3D timeline to make it as fast and productive to finish stereo 3D as conventional 2D projects. Also on show is tight integration with stereo 3D timelines from Avid Media Composer 6, and support for the Sony F65 and Canon cameras in addition to a wide range of other digital cameras.

DVS Digital Video Systems (stand SL6815) is showing a 3D workflow for version 5 of its CLIPSTER DI workstation. STAN (Stereoscopic Analyzer) software is now integrated into CLIPSTER, and this analyses and corrects the 3D material geometrically, including keystone correction.

New, automated 'Auto Colour & Align' tools are now part of the **Image Systems (stand SL6310)** Nucoda stereoscopic workflow. These enable users to automatically match 3D cameras, with advanced motion estimation technology providing morphing and colour matching capabilities.

Avid (stand SU902) is demonstrating the 3D toolset and open platform nature of Media Composer 6. The system has a new user interface, supports AVCHD editing, and has a new DNxHD 444 codec and an advanced mixer for creating 5.1 and 7.1 surround audio.

Autodesk (stand SL3315) is showing the 2013 version of its Flame Premium high-end visual effects and finishing software featuring interoperability with Avid Media Composer 6 stereo 3D timeline support.

DFT Digital Film Technology (stand C11145) is showcasing version 1.5 of its FLEXXITY post production software that runs on Linux or Mac, and supports stereo 3D workflows. It is designed for streamlining audio ingest, image ingest, A/V synchronisation, metadata logging, grading, and playout/file generation.

New features in version 3 of the **Imagineer Systems (stand SL 2024)** mocha Pro include a 3D camera solver. Its advanced planar tracker now includes 3D camera tracking for After Effects and FBX formats.

MAXON (stand SL7625) is showcasing version 13 of its CINEMA 4D 3D motion graphics, visual effects, painting, and rendering software. This features new character tools, integrated stereographic capabilities, streamlined multi-artist collaboration and physical rendering.

For colour grading, **FilmLight (stand SL2420)** is showing Baselight 4.3.
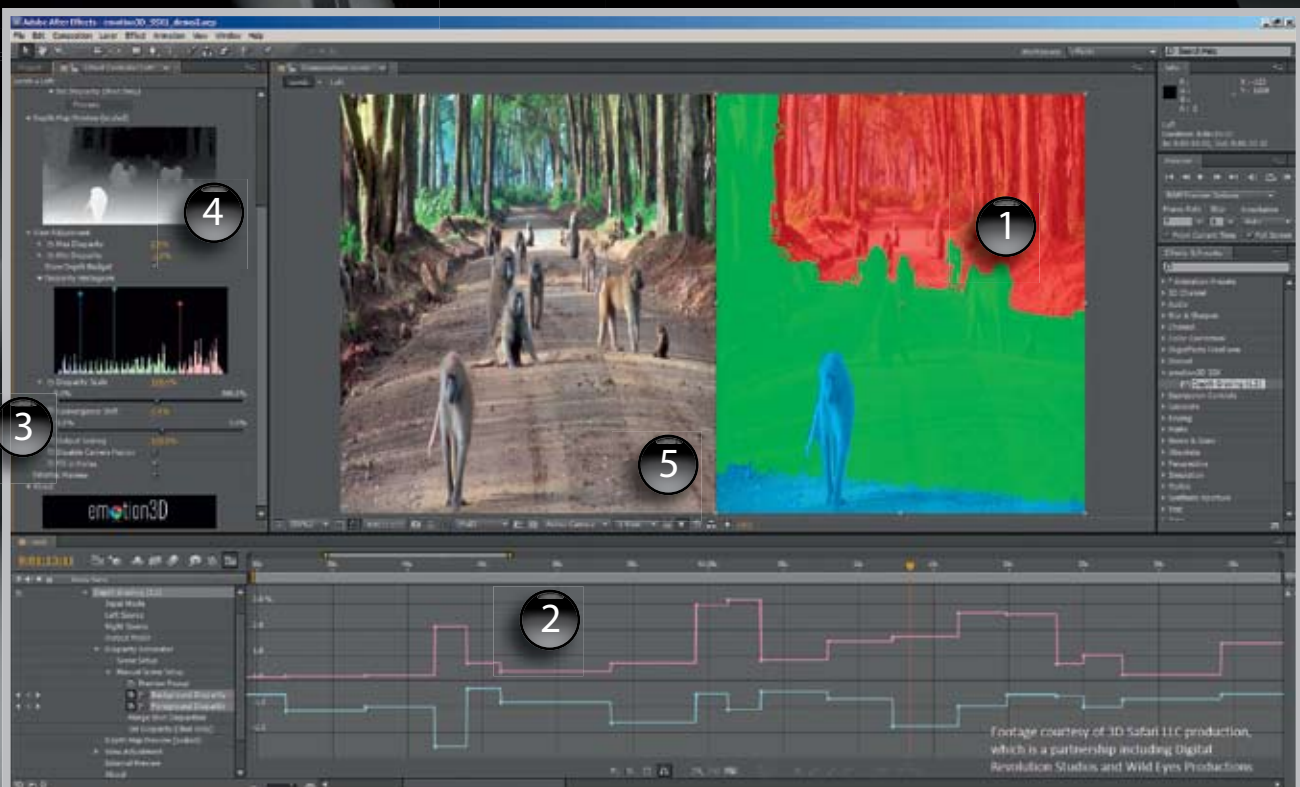
This includes an extended and improved 3D toolset, allowing geometry alignment and convergence adjustments to be automated.

SGO (stand SL2329) is showing Mistika for timeline-based editing, conforming, infinite layer compositing, colour grading, advanced graphics, optical flow-based motion estimation and image restoration. Mistika plays back stereo 3D at 48fps and 60fps, and now offers more functions to automatically match left and right eyes in terms of colour and geometry. SGO has also added support for bi-directional exchange with Avid Media Composer, as well as better workflow with Final Cut Pro.

Vegas Pro 11 from **Sony Creative Software (stand C11001)** offers GPU-accelerated video processing using OpenCL compatible hardware, and allows import, adjust, edit, preview, and output of stereoscopic 3D using industry-standard formats. Anaglyphic monitoring and output are also supported. Vegas Pro 11 includes new titles and text plug-ins, and a floating windows masking tool to compensate for screen-edge violations. A 3D subtitle editing application plug-in for Vegas Pro, called Z Depth, is also available.

In addition to its new Hiero shot manager for VFX, **The Foundry (stand SL9724)** is demonstrating high-end VFX compositing systems NUKE and NUKEX, OCULA stereoscopic workflow plug-ins, and the MARI 3D paint system.

Marquise Technologies (stand SL9109) has a new real-time RAW debayering engine called MOSAIC that supports real-time playback of 2D and stereo 3D RAW footage from a variety of cameras from HD to 4K. It is available in the MIST dailies system and RAIN color correction solution.

Conversion

YUVsoft (stand SL13108) is demonstrating a new version of its 2D to 3D Suite software for professional semi-automatic stereo 3D conversion. The software comprises a set of plug-ins for Adobe After Effects and The Foundry NUKE that support the depth-based 2D-to-3D conversion approach. Boasting a broad range of tools and operating modes, 2D to 3D Suite is a practical solution for the highest-quality projects, as well as for simpler conversion projects intended for 3DTV or inexpensive cinematic releases. The software facilitates 3D conversion by minimising manual operation and increasing stereo generation quality when using 2D+Depth. YUVsoft is also offering stereo video correction and conversion products for automatic correction of geometry and colour mismatches between views, disparity correction to enable parallax and screen-plane level adjustment, stereo-to-multiview conversion and disparity map estimation.

In a bid to provide producers with a high-quality yet cost-effective alternative to expensive and logistically-complex native 3D productions, **SterGen (stand SL5605)** is demonstrating real-time conversion of 2D camera feeds and sports programme footage into true stereoscopic 3D. According to the company, the resultant quality is similar to and often better than native 3D. Using a geometrical analysis of the playing field, SterGen generates a virtual camera that, combined with the original 2D camera, produces a true stereoscopic 3D video in real time. SterGen says that the technology has an advantage over native 3D productions in that it can solve the 'flatness' problem created in wide angle shots (the high cameras), which constitute 60-80% of sports broadcasts.

CMOS Media Tech (stand SL13413) is introducing the 3D Plus non-real-time semi-automatic conversion tool to convert any 2D video image into stereoscopic 3D, as well as the C-AUTO100 real-time automatic conversion algorithm.

Asaca/Shibasoku (stand N905) has a new multi-format standards solution, the VC7. Incorporating advanced dynamic vector and motion compensation technologies, the VC7 seamlessly converts signals between HDTV and SDTV formats, supporting SD, HD, 24PsF as well as many other standard formats including 3D conversion.

Distribution

Sisvel Technology (stand N4122) is demonstrating an entire 3D broadcasting chain, from 3D live content to video encoding and distribution, with high-resolution 3D transmissions using the 3D Tile Format that can also be viewed in 2D on a 2D TV set. Also on show is an expanded range of 3D Tile Format-compatible set-top boxes (STBs) including the SIM2 3DHOME DVB-T and 3DHOME DVB-S, a decoder from Giada and JUICE 3D, and the new decoder from Antik Technology. Further STB product announcements are expected later in the year. Sisvel Technology is also presenting a greatly expanded catalogue of 3D content. The library includes the new 3D programme 'My 3D Guide' - a series of 24-minute guided tours of some of the world's most beautiful locations.

Samsung Electronics (stand N4036) and KBS (Korean Broadcasting System) are demonstrating 3D transmission using an ATSC terrestrial channel and the Internet to deliver Full HD 3D. The service was piloted during the 2011 World Championships in Athletics and is backwardly compatible with ATSC 1.0.

Thomson Video Networks (stand SU3012) is showing the ViBE CP6000 multiformat high-performance platform for contribution of live HD and SD content over IP or satellite contribution networks. It supports eight HD channels per 1RU chassis, and modular implementation of the optimal MPEG contribution codecs. It is ready for 3Gb/s SDI applications (1080p50/59.97), and its dual-channels-per-module architecture addresses 3D applications.

For video transport over IP networks, **T-VIPS (stand SU7907)** is debuting the TNS544, a transport stream over IP switch. The company says that using JPEG2000 compression with IP-based video transport ensures the reliable delivery of HD and 3D video with very low latency, superb picture quality, and without degradation of the image after encoding and decoding.

Media Links (stand SU6912) has new four-port video transmission interfaces for the MD8000 transport solution. The MD8000-UVTX transmitter and MD8000-UVRX receiver boards support JPEG2000 compressed and uncompressed 3D Dual Link, 3G-SDI, HD/SD-SDI and/or DVB-ASI signals over SONET/SDH, IP and DWDM based networks.

Display

The **International Research Park (IRP) (North Hall)** is a special attraction at the NAB Show featuring new and emerging technologies, including 2D and 3D multi-viewpoint video, and the first U.S. presentation of a 200-inch, glasses-free 3D projection system. This autostereoscopic projection system will be presented by the Japanese national research lab, National Institute for Information and Communication Technology (NICT). As the world's largest display of its kind, the viewing zone for the demonstration will allow 30 people to optimally view 3D images without eyewear.

In a collaboration with Dimenco, 3D stock footage provider **Stereobank (stand L108)** is now claiming to offer the largest 3D content library for glasses-free 3D applications, and is showing this on a Dimenco autostereoscopic display.

Triaxes (Elecard stand SU10402) is also showing glasses-free 3D presentations using its 3D Media Player and a Dimenco autostereoscopic TV display.

For stereo-to-multiview conversion, **Fraunhofer HHI (stand C8444)** is offering a solution that creates high-quality autostereoscopic 3D in real-time suitable for most existing and future autostereoscopic 3D displays. The engine can adjust several parameters to modify the depth impression according to personal 3D viewing preferences.

WMG of Warwick University and spin-out company **GoHDR (stand N223)** are exhibiting their High Dynamic Range (HDR) and 3D-HDR video technology. According to its developers, this provides the image detail that is typically lost in the glare of bright light and in deep shadow on standard HD video, to be revealed with the same clarity as seen by the human eye.

DON'T LET
LOW RESOLUTION
DISTORT YOUR IMAGE.
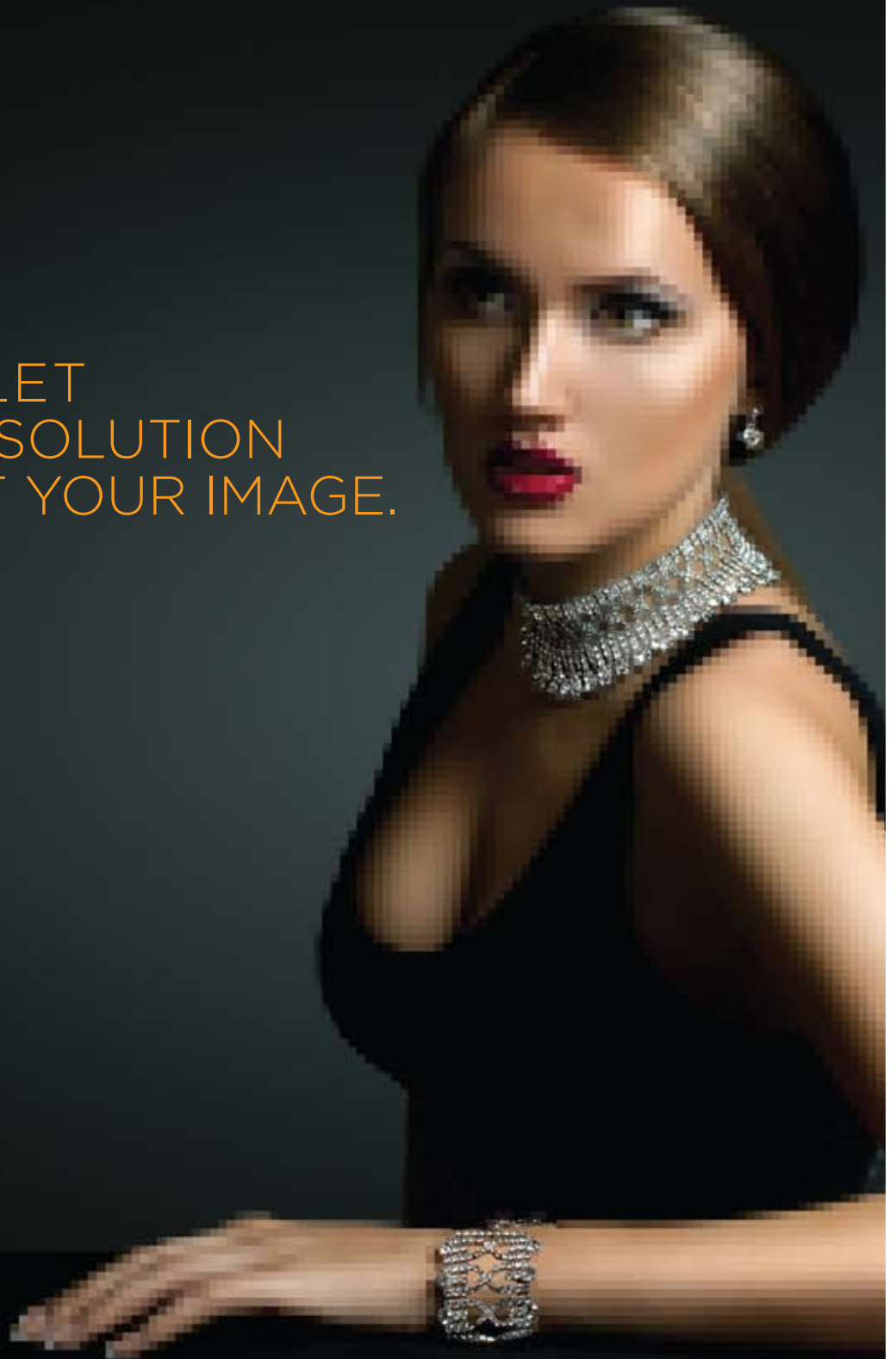
SWITCH TO 3D TILE FORMAT

Sisvel Technology exhibits at:

NAB (Booth N4122) **April 16-19** 2012 - www.nabshow.com

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