

TV TechCheck

The Weekly NAB Newsletter for TV Broadcast Engineers



NAB Labs Futures Park to Present 4K, 8K and more at 2013 NAB Show

At the 2013 NAB Show (Las Vegas Convention Center, Las Vegas, Nev., April 6-11, 2013), the NAB Labs Futures Park will feature high-profile media technologies currently in development by researchers around the world. Established in 2009 as the “International Research Park,” starting in 2013 the NAB Labs Futures Park will present demonstrations specifically chosen by NAB Labs for presentation to the broad international audience at the NAB Show.

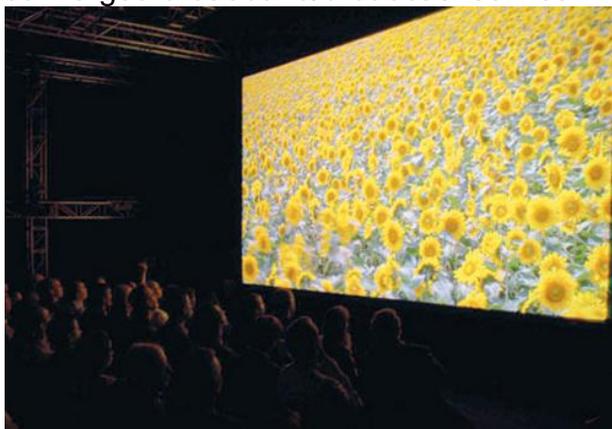
A wide variety of demonstrations are set for the 2013 Futures Park. A short summary is presented below.

NHK

The Japanese national public-service broadcaster NHK will demonstrate numerous elements of its 8K *Super Hi-Vision* (SHV) system, including content recorded at the 2012 Olympic Games in London, displayed on a 300-inch screen with 22.2 channel sound playback. The NHK exhibit will also feature portable and 120 Hz studio cameras recently developed for SHV, and production tools for the system’s 22.2 channel audio format. The interactive capabilities of a converged broadband/broadcast service will also be

presented in a demonstration of the NHK “Hybridcast” service.

Perhaps most importantly, the NHK demo will also include the first demonstration anywhere in the world outside Japan of over-the-air broadcast transmission and reception of the Super Hi-Vision service, using two 6MHz TV channels.



2013 NAB Technology Innovation Awards



NAB is currently accepting [nominations](#) for the 2013 NAB Technology Innovation Awards. First presented at the 2009 NAB Show,

NAB presents the award to organizations that bring advanced technology exhibits and demonstrations of significant merit to the NAB Show. The nominated exhibit should present advanced research and development projects in communications technologies that have not yet been commercialized.

Candidates for the Technology Innovation Awards must be organizations who are currently exhibiting at the NAB Show. The size of the organization is not a determining factor. Nominated projects may not be commercial products that have been offered for sale prior to or at the NAB Show. The merit of the technology exhibit is the sole factor to be taken into account. The entry deadline is February 22, 2013. The awards will be presented at the NAB Technology Luncheon on April 10, 2013 at the NAB Show in Las Vegas.

SHV's 7680 x 4320 video format provides 16 times the number of pixels as HDTV, for stunning clarity and an immersive visual experience. Meanwhile, the system's massive multichannel audio system produces unprecedented realism in a 3D sound space for viewers located anywhere within a large viewing area.

NHK will also make a presentation at the NAB Broadcast Engineering Conference (BEC) on public viewing sessions using Super-HiVision at the 2012 London Olympics, and will also publish a paper on that topic in the *BEC Proceedings*.

ETRI

The Korean research and development organization Electronics and Telecommunications Research Institute (ETRI) also has planned a full slate of exhibits. Among these is a proposed next-generation TV broadcast system that provides 4K service to fixed receivers and HD service to mobile receivers, in a single multiplexed transmission.

ETRI will also present an advanced "soundbar" demonstration, by which speakers above and below a TV screen can present virtualized 22.2 channel 3D audio representation, plus a proposed "smart TV" software platform based on HTML5 that provides individual "personal home screens" for each family member.

Another interesting demonstration from ETRI is a "mirrored smart remote control," by which a handheld touchscreen device provides a representation of the image currently displayed on a large, fixed (non-touchscreen) TV in the room, and allows the user to remotely interact with the large TV as if touching it, but from a comfortable distance, using the handheld device's screen as a proxy. The ETRI booth also promises exhibits on adaptive video streaming, low-latency 3D gaming, and augmented reality for TV programs.

FIMS (EBU and AMWA)

The European Broadcasting Union (EBU) and the Advanced Media Workflow Association (AMWA) will demonstrate the latest developments of their joint effort on the *Framework for Interoperable Media Services* (FIMS), which enables a new

approach to system architecture offering increased flexibility and cost-effectiveness to media production processes. The initiative has published a V1.0 of its specification, which covers the capture, transfer and transform stages of production. Presentations will also highlight currently ongoing work on FIMS repository and QC/analysis elements. FIMS representatives will also present their current status at the NAB Broadcast Engineering Conference (BEC), and will publish a paper in the *BEC Proceedings*.

AMWA will also highlight its independent work on application specifications for the adoption of MXF in news production, program contribution, commercial delivery, archiving and preservation, along with its compliance testing efforts for these specifications.

Zaxel Corporation

The Japanese firm Zaxel Corporation will present its recent work on developing cost-effective, high-quality 4:4:4 images using the H.264/MPEG AVC codec. The company cites the growing need for such efficiencies with the emergence of a consumer market for 4K content.



Project FINE

A consortium of European broadcasters and content providers has been at work for several years on the *Free-viewpoint Immersive Networked Experience* (FINE). At this year's Futures Park they will present the culmination of their effort, funded in part by the EBU, which allows consumers to place a virtual camera into a live-action scene and move it freely in space and time, thereby heightening immersion and engagement with the scene. Demonstrations will be presented using sports content, displayed on main and second screens.

Academia

Results of important academic research in multiview video image processing, video color processing and multispectral video will be presented by the **Rochester Institute of Technology** (RIT), one of the world's leading institutions in imaging research. Again the movement toward 4K makes this work increasingly important, and presentations will highlight work on methods of enhancing color gamut and spectral resolution, including how they relate to color rendition of underwater photography and applications on new laser-based video projectors. Multiview work on enhanced sports highlights and replays will also be presented by RIT.

Meanwhile, **Nanyang Technological University** (NTU) of Singapore will demonstrate its work on *Multi-screen Cloud Social TV*, by which television viewers can "pull" a program from a fixed TV screen onto a tablet or smartphone, or "throw" a program from a portable device to a fixed screen, and continue watching it seamlessly. Developers at NTU call this "video teleportation," and believe it will be an important component of future TV systems. The technology also allows on-demand distributed viewing sessions to be set up, so a group of physically separated users can synchronously watch a common program, and comment by video chat, voice or text, creating a "virtual living room experience."



The NAB Labs Futures Park will be located in the North Hall of the Las Vegas Convention Center, and will be open to all NAB Show attendees during regular exhibit hours (9:00 a.m. to 6:00 p.m. Monday through Wednesday, and 9:00 a.m. to 2:00 p.m. Thursday).

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