

# WorldScreen

## Press Release

### WorldScreen Presentation at the Berlinale

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#### WORLDSCREEN Consortial Partners

Fraunhofer IIS  
Institute for Integrated Circuits

ARRI  
Deutsche Telekom Laboratories  
Digilab2000 Srl.  
FLYING EYE  
Fraunhofer HHI  
Institute for Telecommunications,  
Heinrich-Hertz-Institute  
KODAK  
MOG Solutions  
Warner Bros.

**What might digital cinema look like in the future? The answer will be revealed at the Berlinale on February 15 by Fraunhofer researchers, together with industry partners such as Deutsche Telekom Laboratories, FLYING EYE, Kodak, Digilab and MOG Solutions, when they present the results of the EU WorldScreen project in the CineStar complex at the Sony Center in Berlin.**

A new cinematic age with razor-sharp pictures and excellent quality begins. In the future, films will be shown in cinemas at a resolution of 4 K, which is equivalent to 4096 x 2160 active pixels. The transformation is achieved by switching from analog to digital technology. Feature films shown in tomorrow's movie theaters will no longer be projected from a conventional film spool, but directly from the hard disk of a server. However, before this new technology can find its way into each and every cinema, the film industry still has to master numerous challenges – such as how to handle the enormous volume of data involved.

“The shooting of a single scene generates somewhere between 200 and 500 gigabytes of data. A 90-minutes film thus generates several dozens terabytes' worth,” explains project coordinator Siegfried Foessel of the Fraunhofer Institute for Integrated Circuits IIS. It takes a lot of time and effort to save, process, distribute and archive these data. The objective of the EU WorldScreen project is to optimize the entire digital cinema production workflow with the help of scalable data compression. The partners involved in the project have opted for the JPEG2000 image compression format. The process encodes the movie, image by image, thus enabling it to be edited at precisely the right point. A further advantage of this method is that various resolutions can be generated from an image data stream. The options range from the camera's original resolution to lower resolutions suitable for a film preview or for initial working copies – all without modifying the original data. In addition, JPEG2000 provides space for metadata, thus permitting the storage of additional information about the recorded images. To ensure that the workflow in digital cinemas will be easily manageable, the researchers have integrated JPEG2000 into various storage and post-production systems. They have developed a portable memory device and various systems for the encoding and decoding of moving images.

In the future, the finished digital films will be delivered to cinemas via satellite. For this purpose, the project partners intend to use the container format MXF (Material eXchange Format). MXF can best be described as a sort of envelope into which the JPEG2000 data are packed before being sent. The data are then unpacked again in the cinema, and can be played back in excellent quality using a digital projector. Digital film data make ideal master copies. Encryption technologies will prevent the valuable images from falling into the wrong hands and being copied.



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Throughout the project, top priority was given to achieving the best possible image quality – for it is only by impressing viewers with outstanding quality that cinema will be able to distinguish itself clearly from television in the future.

The results are now to be presented at the Berlinale. It is here that the partners involved in the WorldScreen project will display the systems they have developed – systems that will soon be available commercially.

**Event:**

WorldScreen Presentation  
February 15, 2007  
7 pm. – 9 pm.  
at the CineStar Sony Center, Cinema 2  
registration via [www.worldscreen.org](http://www.worldscreen.org)

*WorldScreen:*

*The WorldScreen project has a duration of 32 months and is due to end in April 2007. It has received approx. 3 million euros in EU funding. The industry partners are providing an additional 3 million euros.*

*The partners:*

*Fraunhofer Institute for Integrated Circuits IIS  
Fraunhofer Institute for Telecommunications, Heinrich Hertz-Institut, HHI  
Digilab2000 srl.  
FLYING EYE GmbH  
Kodak  
MOG-Solutions  
Deutsche Telekom Laboratories*

*Advisory partners:*

*ARRI  
Warner Bros*