

Andrzej Wajda bids

Katyn, Andrzej Wajda's long-awaited feature, will represent Poland at the 2008 Academy Awards. The Honorary Oscar® recipient's father perished in the *Katyn* forest massacre near Smolensk. His final resting place is unknown. *Katyn* is partly autobiographical and intended by Wajda as a "farewell" to the controversial subject. It is based on *Post Mortem – the Katyn Story* by Andrzej Mularczyk.

At the beginning of World War II, Poland was a divided country. Nazi Germany and the Soviet Union set out to destroy the Polish people and their culture. When the Red Army invaded in 1939, they arrested and deported over 22,000 Polish officers, including many reservist intellectuals. The men never returned home. In 1943 the Nazi army invaded Soviet Russia and discovered hundreds of unmarked mass graves containing thousands of executed Poles. *Katyn* was one of the largest mass graves. It became synonymous with the Soviet murder of Polish prisoners-of-war in the early stages of World War II. The Soviet Union denied responsibility for the atrocity until 1990.

Katyn was shot in Krakow, where Andrzej Wajda and his mother waited for news of the missing father. It was also where the Germans broadcast the massacre to the waiting world. The film's focus is on the mothers, wives and daughters and their desperate wait for their loved ones' return from Soviet captivity. It 'translates' the

crime into the personal scale of human emotions experienced by the separated families and reveals their efforts to uncover the truth.

Director of photography Pawel Edelman (*The Pianist*, *All the King's Men*) shot *Katyn* on KODAK VISION2 250D 5205 and KODAK VISION2 500T 5218. He and Wajda have worked together on many films. "We knew from the beginning that *Katyn* should have muted colours; not black-and-white images," Edelman states. "We didn't want to suggest a documentary from the 1940s or compete with the raw power of real stock shots. We looked for the right palette of colours for each scene and location in the grading process. We knew that colour and contrast had to correspond with emotions."

The genocide scene had to be shot on a sunny day. It proved a highly emotional experience for the hundreds involved. "I was able to block the sunlight in a pretty big area but, because we used wide lenses and a handheld camera, all the backgrounds were bright," says Edelman. "Grader Aleksandra Kraus and I decided that an unpleasant high contrast and cold blue-green colours would be the right solution."

"Pawel shot the scene in an extremely naturalistic style" adds executive producer Kamil Przelecki, who remembers the quiet concentration amongst those involved. "He wanted to show the back of the men's heads in close-up, which we couldn't film using conventional methods.

We knew from medical research that the bullets generally passed straight through the men's skulls, so we decided to use Greenbox and 3D animation."

A large number of expensive set elements, such as the dome of the



Orthodox Church in Kozielsk, were added in post-production with the 3-perf image registration method.

"*Katyn* is the only movie in my entire career in which I didn't experience problems with the rushes," says Edelman. "From my first conversation with the dailies grader, everything turned out perfectly. It made our life much easier during final grading." The DP took the decision to put *Katyn* through 4K post-production at The Chimney Pot in Warsaw. It is

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farewell to *Katyn*

Post House
The Chimney Pot, Poland

Project Supervisor
Lukasz Ceranka

Colorist
Aleksandra Kraus

Tool
KODAK DIGITAL ICE (DICE) Technology

claimed to be the first European feature to go through this advanced process.

Aleksandra Kraus followed the narrative of the film, complementing Edelman's "great cinematography. It was a fairly simple grade and not intrusive. It adjusted to the storyline in a 'natural' way. Sometimes it's better not to do too much. We generally kept the contrast close to the natural level, with the saturation slightly off. Interiors were warm, with a tinge of brown. Exteriors were colder. Apart from basic colour grading, we sporadically used selective grading. For example, in the first scene we lowered and levelled the greens," she explains.

4K post-production

Aleksandra Kraus also undertook a large amount of masking. "In most cases it meant darkening selected parts of the frame. The film's ratio of 1:2.35 produces a lot of information around the actors, so masking helps focus the audience's attention on the really important elements. As the story becomes grimmer, so the colours fade and turn greyer." The genocide scene was given more aggressive treatment. "Pawel wanted it to have

a much more unpleasant character. We increased the contrast sharply with a strong, cold blue-green dominant grade and raised the sharpness well above the norm."

The main challenges for project supervisor Lukasz Ceranka were the huge quantity of data, the numerous effects shots in 4K, and the manipulation of large images. "I've learnt that some software refuses to work on 4K images. I also know what takes most time and where the critical path is in this type of project," he says. "We graded in 2K proxy on HD projection with a projector instead of an HD monitor," he continues. "It gives the advantages of improved scale and a reflected image. We used the KODAK Display Manager to calibrate our DI process" Our digital projection matched very well with what you see in the cinema. There were absolutely no issues with color transfer just after the first recording. For the whole movie we needed to correct only one shot due to grain issues.

KODAK DIGITAL ICE (DICE) Technology was applied during the ARRISCAN scanning to calculate and remove surface defects. "DICE cleaned our material very nicely," says Ceranka. "We work with Kodak stock a lot and know it well. There were no problems on the negative level during the whole of post-production. It was very easy

to catch the proper balance for each scene."

4K enabled image manipulation in almost every detail of every shot in *Katyn*. It included 200 special effects covering 15 minutes of film, and basic and selective colour correction. The material took approximately 24 TB of disk space, representing one million computer files. In 4K, the final images are projected onto a cinema screen comprising 4096 pixels in 3484 lines, which gives more than 14 million pixels per frame.

Edelman is a self-confessed DI fan. "I've used it on all my movies since *The Pianist*. I believe it's a great tool if you know how to use it. There used to be a slight loss of detail, sharpness and less natural grain between the answer print and the final result. But now there's twice as much resolution. We are much closer to the negative than before. I'm 100% satisfied with all we've done in the DI process with my friends at The Chimney Pot. We worked really fast and effectively and the results are great."

Przelecki was very pleased with the decision to use DI. He adds, "4K has given *Katyn* a fantastically convincing and modern look. It also widens distribution opportunities. The film can be screened in digital cinemas."

Digital Intermediate

"Making a movie with Mr Wajda is very special. It's challenging and always exciting," enthuses Edelman. "His ways of working give the cinematographer great opportunities to be at the centre of the creative process. *Katyn* is very important to him on both a personal and artistic level. The truth about the massacre was a missing part of our collective memory".

Przelecki also recognises the "incredible responsibility" of making a film of such sensitivity and significance. "We knew we had to illustrate the reality of this period and put every effort into this artistic and politically-important film. *Katyn* will always be the biggest adventure of my life. It will become an epilogue to the Polish Film School."

Eighty-one-year-old Andrzej Wajda made a short speech before the film's premiere. "He simply dedicated it to his parents and then left the audience with his work. When the screening ended, the whole room remained silent for a few minutes," reflects Przelecki.

Katyn was released on 17 September, the 68th anniversary of the Soviet invasion of Poland.