Behind the scenes of the global film industry

One of the first cinematographic achievements: Lumiere's "Arrival of a train at La Ciotat Station" (1895).

by Julian Pinn, Chair, ISO/TC 36, Cinematography

It is a small world – well, thanks to standardization it is – and the film industry is an excellent example of a global industry that has managed to keep its world very small indeed.

Standards play a crucial part throughout the numerous stages of the complex, and often international, motion picture supply chain. A film can be shot in one country, edited in another, sound mixed in yet another, and then the masterpiece exhibited in many of the 140 000-or-so cinema screens worldwide with no technical need for local conversion whatsoever.

And this is very important: whilst there is invariably nothing more precious to film-makers than the integrity by which their artistry is exhibited, it is the producers and distributors who are particularly interested in minimizing the costs in achieving this! Standards play a crucial part in minimizing these costs; moreover, standards play a crucial part in maximizing that artistic integrity by specifying performance characteristics of the numerous systems and materials used in the total supply chain from production through to exhibition.

ISO/TC 36, *Cinematography,* is all about the standardization of definitions, dimensions, methods of measurement and test, and performance characteristics relating to materials and apparatus used in silent and sound motion picture photography; in sound recording and reproduction related thereto; in the installation and characteristics of projection and sound reproduction equipment; in laboratory work; and in standards relating to sound and picture films used in television.

It is quite a scope and since its inception in 1947, ISO/TC 36 has published in excess of 100 standards that have removed and are expected to continue to remove technical barriers to trade, and to enable open markets in various regions of the world.

Loudspeakers behind the screen.
(Photo from Bell Theatre Services of Empire Leicester Square).

Cinematography standards in general do not address social, safety, health or environmental concerns; there are no laws mandating the adoption of cinema standards. Standardization of the world's film industry has to be sensitive and relevant to the market needs of the industry it is aiming to support. Irrelevant work will simply be ignored.

With over 100 years since the Lumière brothers were filming that wonderful steam train at La Ciotat station,

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market forces and international standardization have managed to weave together in order to help make a global industry of phenomenal maturity.

With much of the gamut of film standards finished, modern standards work, until recently, has been largely limited to just maintenance. Market forces, however, have changed gear and the motion picture industry is witnessing, arguably, the biggest change since the introduction of sound many decades ago: finally, a digital alternative to shining light through reels of sequential film images is available. And it is up to the work of key market stakeholders and standardization to help make sure this alternative, digital cinema offers the same high level of interoperability and artistic integrity as its photochemical predecessor: film.

ISO/TC 36 is consequently very busy again. Since the concept of digital cinema as a viable alternative to film has gathered general acceptance, there has been, and still is – a real need for a very speedy reaction in standards work to this industry-change. Mass adoption of different non-standardized equipment and material specifications will result in a very fragmented industry that will not enjoy the same open and easy interchange of material as is enjoyed with film. The cost of this lack of standardization would be very dear.

Considering the suitable direction of an industry being reborn, whilst recognizing the technical, commercial, and political requirements for many of the industry's stakeholders, is a massive undertaking. In October 1999, the Task Force on Digital Cinema (St13.18) of the Society of Motion Picture and Television Engineers (SMPTE) met for the first time. This task force evolved into DC28 in November 1999 when the task force was approved for conversion into the Committee on Digital Cinema Technology. DC28 has welcomed a large international membership and participation of the standardization process of this global industry.

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With speed of the essence, since its 19th plenary meeting held in Los Angeles, USA, at the end of 2006 and during its 20th plenary meeting held in Seoul, Republic of Korea, in May 2008, ISO/TC 36 has published twelve digital cinema standards – and there is another large batch of eleven standards currently on target for publication next year!

This phenomenal work is partdue to the hard work of ISO/TC 36's

About the author

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nine participating member countries in their conscientious consideration of each and every work item that make up the entire suite of interconnecting digital cinema standards, and part due to the enormous dedication of the salient contributor of that work, the SMPTE, which, for cinematography standardization, represents the American National Standards Institute (ANSI): one of the nine national members of ISO/TC 36.

ISO/TC 36 is divided into four working groups, each with their own area of expertise. These are:

- **ISO/TC 36/WG 1**, *Production technology:* the process, mechanisms and materials used to capture images and sound for cinematographic use and preparation of such content ready for packaging and distribution
- **ISO/TC 36/WG 2**, *Laboratory and distribution services technology:* the process, mechanisms and materials used to manufacture, package and distribute cinematographic materials ready for theatrical presentation and submittal for television distribution
- **ISO/TC 36/WG 3**, *Audio technology:* the process, mechanisms and materials used to capture, prepare, distribute and present audio for accompaniment of cinematographic images
- **ISO/TC 36/WG 4**, *Presentation technology:* the process, mechanisms and materials used to present cinematographic materials in a theatrical environment.

So next time you are at the cinema, have a thought about the sheer number of personnel on the end-credits, in front of and behind the scenes and how they all worked together to produce that film. Then have a think about the hundreds of personnel and thousands and thousands of man-hours that have gone into the standards that ensure the cinema is able to present that film and to an audience who are on the edge of their seats–just as the director intended.