# Material eXchange Format (MXF)

## Programme

22-23 September 2011
EBU, Geneva, Switzerland

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# Master Class

## Trainer

**Pedro Ferreira**
Director of Consulting and Innovation
MOG Solutions,  Portugal

Co-founder and member of the board of MOG Solutions and MOG Technologies.
Pedro is trying to make MOG's products easier to use and more effective in streamlining file-based workflows.

# Thursday 22 September

## 09:00 – 09:30  Introduction
– Presentation of trainer, trainees and MOG
– Agenda

## 09:30 – 10:30  Introduction to MXF
*Explain what led to the development of MXF, its requirements, how it became a standard and how it is organised.*

– What is MXF?
– MXF history
– User requirements
– MXF document organisation
– MXF, AAF and XML
– Install theScribe and view some example MXF files

10:30 – 11:00    **Coffee break**

## 11:00 – 12:30  MXF logical model
*Introduce the logical model of MXF.*

– Essence containers, index tables
– Structural metadata
– UMID: what and how in MXF?
– Operational patterns: generalised OPs, specialised OPs, use cases
– MXF and XML: S434M, use theScribe to export XML files

12:30 – 14:00    **Lunch**

## 14:00 – 16:45  MXF applications and MXF physical structure
*Present well-known applications and introduce the underlying physical layout of MXF files.*

– MXF building blocks: KLV, ULs, BER, group coding
– Plain simple OP1a file
– Clip-wrapped OPAtom files
– Long-GOP multi-partition OP1a file
– Subtitles, closed captions, VBI and ANC
– Archives and Partial Restore
– Higher level OPs
– File layout Recap

**Including coffee break**

16:45 – 17:30    **Wrap-up**
– Consolidate what has been discussed so far
– Feedback on how your perception of MXF has changed
– Open discussion: lessons learned, myths and facts, etc.

# Friday 23 September

**09:00 – 09:10 Introduction**
– Review of day 1 and agenda of day 2

**09:10 – 10:00 Descriptive metadata and DMS-1**
*Descriptive metadata overview.*

– SMPTE registries: labels, groups, metadata elements
– Descriptive metadata in MXF: DM tracks, DM plug-ins
– Descriptive metadata scheme 1: motivation, frameworks, interoperability
– Custom metadata schemes: creation, promoting interoperability, application examples

**10:00 – 10:30 Roundtable: metadata in the real world**
*Discuss how metadata is used today, what are the prospects for the future, strategies for successful deployment.*

10:30 – 11:00 **Coffee break**

**11:00 – 11:20 MXF standardization currently underway**
*Present the work currently underway at SMPTE that has a direct or indirect effect on MXF.*

– Rationale, impact on interoperability

**11:20 – 12:00 Advanced MXF applications**
*Present a set of applications that take advantage of MXF features in order to provide advanced workflows.*

– mxfSPEEDRAIL S1000 & Avid Media Composer/Interplay
– mxfSPEEDRAIL F1000 & Avid Media Composer/Interplay

**12:00 – 12:30 New trends**
*Discuss new trends and technologies, with a focus on how MXF can leverage these.*

– SOA and MXF: mxfSPEEDRAIL, Interplay Web services
– Optimizing workflows: planning metadata (XDCAM, F1000, Interplay)

12:30 – 14:00 **Lunch**

**14:00 – 15:00 Roundtable: MXF interoperability**
*Introduce the main aspects that can impair MXF interoperability and give guidance on how to avoid them.*

– Discussion, with a focus on the trainees' experience on the subject: why is it not so easy? State of the art & known issues; tips for tenders.

**15:00 – 15:30 Roundtable: MXF-based systems and workflows**
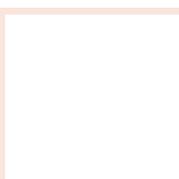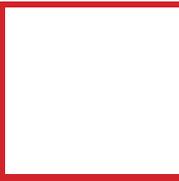*Participants present their projects, followed by a discussion on each project.*
*The goal is to share ideas and experience, and to open-up the debate on good practices, known issues.*

15:30 – 16:00 **Coffee break**

**16:00 – 17:00 Roundtable: MXF-based systems and workflows (continued)**

**17:00 – 17:30 Wrap up, summary and feedback**

17:30 **End of Master class**

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