

# Material eXchange Format (MXF)

Programme

13-14 December 2011  
EBU, Geneva, Switzerland



# 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.

## Tuesday 13 December

### 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 organization.
- MXF, AAF and XML

10:30 – 11:00 **Coffee break**

### 11:00 – 12:30 MXF walkthrough

- Common MXF applications: capture, playout, editing, versioning
- Overview of the MXF structure: KLVs, Partitions
- Overview of the high-level components: Essence containers, index tables and structural metadata
- UMIDs in MXF
- Operational patterns: generalised OPs, specialised OPs, use cases

12:30 – 14:00 **Lunch**

### 14:00 – 15:45 MXF applications and MXF physical structure

*Present well-known applications and introduce the underlying physical layout of MXF files.*

- 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: AS-02

15:45 – 16:15 **Coffee break**

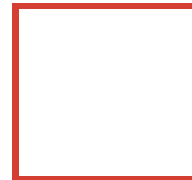
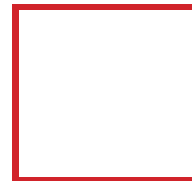
### 16:15 – 17:00 Essence in MXF

- Mapping essence to MXF: Essence containers and index tables
- Details on structural metadata: essence descriptors

17:00 – 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.



# Wednesday 14 December

## 09:00 – 09:10 Introduction

- Review of day 1 and agenda of day 2

## 09:10 – 09:50 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

## 09:50 – 10:15 Roundtable: metadata in the real world

*Discuss how metadata is used today, what are the prospects for the future, strategies for successful deployment.*

## 10:15 – 10:30 MXF standardization currently underway

*Present the work currently underway at SMPTE that has a direct or indirect effect on MXF.*

- Rationale, impact on interoperability

10:30 – 11:00 **Coffee break**

## 11:00 – 12:30 New workflows

*Discuss new trends and technologies, with a focus on how MXF can leverage these. Present a set of applications that take advantage of MXF features in order to provide advanced workflows.*

- Edit while ingest
- Versioning for multiple targets and multiple languages: AS-02 and IMF
- Supporting audio-description, closed captions and subtitles
- File-based quality checking
- Integrating workflows: SOA and MXF

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**



# European Broadcasting Union



© EBU TRAINING – December 2011

**Contact:**

Nathalie Cordonnier  
Project Manager  
EBU TRAINING

L'Ancienne Route 17A  
1218 Grand Saconnex GE  
Switzerland

T +41 22 717 21 48  
F +41 22 747 41 48  
E [cordonnier@ebu.ch](mailto:cordonnier@ebu.ch)

[www.ebu.ch/training](http://www.ebu.ch/training)



**EBU TRAINING**  
A KNOWLEDGE MARKETPLACE