

The PREFORMA PCP

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PACKED

WP2 Lead



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Centre of Expertise in Digital Heritage

PREFORMA – SUCCEED workshop
The Hague, 2nd october 2014



- ❑ Pre-Commercial Procurement project co-funded by the European Commission under its FP7-ICT Programme.
- ❑ Start: 1 January 2014
- ❑ Duration: 48 month (end 31 December 2017)



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- RIKSARKIVET, Sweden (**Coordinator**)
- PACKED, Belgium
- PROMOTER, Italy (**Technical Coordinator**)
- FRAUNHOFER - IDMT, Germany
- HOGSKOLAN I SKOVDE, Sweden
- UNIVERSITA DEGLI STUDI DI PADOVA, Italy
- NEDERLANDS INSTITUUT VOOR BEELD EN GELUID, Netherlands
- KIK-IRPA, Belgium
- GREEK FILM CENTRE, Greece
- LOCAL GOVERNMENT MANAGEMENT AGENCY, Ireland
- STIFTUNG PREUSSISCHER KULTURBESITZ, Germany
- AYUNTAMIENTO DE GIRONA, Spain
- EESTI VABARIIGI KULTUURIMINISTEERIUM, Estonia
- KUNGLIGA BIBLIOTEKET, Sweden



PRE-COMMERCIAL PROCUREMENT



- ❑ procuring R&D services
- ❑ competition-like procurement method
- ❑ developing innovative solutions that address specific public sector challenges and needs.
- ❑ phased procurement of development contracts to reduce risk.



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Empower memory institutions to gain full control over the technical properties of digital content intended for long-term preservation.



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- ❑ Develop an **open source conformance checker** that:
 - checks if a file complies with standard specifications
 - checks if a file complies with the acceptance criteria of the memory institution
 - reports back to human and software agents
 - perform simple fixes

- ❑ Establish an ecosystem around an **open source reference implementation** that:
 - generates useful feedback for those who control software
 - advances improvement of the standard specification
 - advances development of new business cases for managing preservation files



PRESERVATION FORMATS



MXF | MPEG | IMX | XDCAM HD422 |
DPX | DCP | JPEG2000 | MOV |
MPEG2 | AVI | MPEG4 | AVC | PDF 1.4
| PDF/A1 | TIFF 6.0 | JPEG | RAW |
AS-07 | MPEG|AF | PDF | MKV |
FFV1 | OGG | Dirac | PNG | WebM |
VP8 | OGG | Theora | PDF/A2 |
PDF/A3 | LPCM



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| Adoption? | AUDIO VISUAL | | | TEXT | IMAGE |
|-----------------------|------------------------------------------------------|----------------------------------------------------------|--------------------------------------------------------|----------------------------|-------------------------------------|
| | broadcast | film | Consumer | | |
| PREFORMA stakeholders | MPEG-IMX (MXF/MPEG2) XDCAM HD422 (MXF/MPEG4) | DPX DCP (MXF/JPEG2000) | MOV/MPEG2 AVI/MPEG2 MPEG/MPEG2 MPEG/MPEG4-AVC | PDF 1.4 PDF/A1 | TIFF 6.0 JPEG JPEG2000 RAW |
| Industry standards | AS-07 (MXF/MPEG2) (MXF/JPEG2000) FIMS (MXF/MPEG2) | DCDM (TIFF 6.0) DCP (MXF/JPEG2000) IMF (MXF/MPEG4) | MPEG-AF | PDF | JPEG2000 TIFF |
| Open standards | MKV/FFV1 OGG/Dirac | PNG | WebM/VP8 OGG/Theora | PDF/A1 PDF/A3 PDF/A3 | PNG |
| PREFORMA | MKV OGG JPEG2000 FFV1 Dirac LPCM | | | PDF/A | TIFF 6.0 |

| uncompressed / lossless? | AUDIO VISUAL | | | TEXT | IMAGE |
|--------------------------|----------------------------------------------------------------------|----------------------------------------------------------|--------------------------------------------------------|----------------------------|-------------------------------------|
| | broadcast | film | Consumer | | |
| PREFORMA stakeholders | MPEG-IMX (MXF/MPEG2) XDCAM HD422 (MXF/MPEG4) | DPX DCP (MXF/JPEG2000) | MOV/MPEG2 AVI/MPEG2 MPEG/MPEG2 MPEG/MPEG4-AVC | PDF 1.4 PDF/A1 | TIFF 6.0 JPEG JPEG2000 RAW |
| Industry standards | AS 07 (MXF/MPEG2) (MXF/JPEG2000) FIMS (MXF/MPEG2) | DCDM (TIFF 6.0) DCP (MXF/JPEG2000) IMF (MXF/MPEG4) | MPEG-AF | PDF | JPEG2000 TIFF |
| Open standards | MKV/FFV1 OGG/Dirac | PNG | WebM/VP8 OGG/Theora | PDF/A1 PDF/A3 PDF/A3 | PNG |
| PREFORMA | MKV OGG JPEG2000(?) FFV1 Dirac LPCM | | | PDF/A | TIFF 6.0 |

| Open standard? | AUDIO VISUAL | | | TEXT | IMAGE |
|-----------------------|-------------------------------------------------------------------------------|----------------------------------------------------------|--------------------------------------------------------|----------------------------|-------------------------------------|
| | broadcast | film | Consumer | | |
| PREFORMA stakeholders | MPEG-IMX (MXF/MPEG2) XDCAM HD422 (MXF/MPEG4) | DPX DCP (MXF/JPEG2000) | MOV/MPEG2 AVI/MPEG2 MPEG/MPEG2 MPEG/MPEG4-AVC | PDF 1.4 PDF/A1 | TIFF 6.0 JPEG JPEG2000 RAW |
| Industry standards | AS 07 (MXF/MPEG2) (MXF/JPEG2000) FIMS (MXF/MPEG2) | DCDM (TIFF 6.0) DCP (MXF/JPEG2000) IMF (MXF/MPEG4) | MPEG-AF | PDF | JPEG2000 TIFF |
| Open standards | MKV/FFV1 OGG/Dirac | PNG | WebM/VP8 OGG/Theora | PDF/A1 PDF/A3 PDF/A3 | PNG |
| PREFORMA | MKV (?) OGG JPEG2000 (?) FFV1 Dirac LPCM (?) | | | PDF/A | TIFF 6.0 (?) |

INTEROPERABILITY ISSUES



- ❑ (technically) open \neq (free/libre) open format
- ❑ standard formats \leftrightarrow multiple implementations
- ❑ technically appropriate formats $>$ little support/adoption

- ❑ too often we copy format policies without checking if they are appropriate



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File formats



| Content type | Standard specifications |
|--------------|----------------------------------------------------------------------------------------------------------------------|
| TEXT | ISO 32000-1:2008 (PDF 1.7) ISO 19005-1:2005 (PDF/A-1) ISO 19005-2:2011 (PDF/A-2) ISO 19005-3:2012 (PDF/A-3) |
| IMAGE | ISO 12234-2:2001 (TIFF/EP) ISO 12369:2004 (TIFF/IT) |
| MOVING IMAGE | OGG MKV ISO 15444-1 (JPEG2000 core coding system) FFV1 Dirac LPCM |



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