



PDF Days
Europe
2025

PDF Association
Working Group Reports
Where the technical work happens

Summary of Working Groups

- 11 Technical Working Groups (TWG) (PDF Association Members)
- 8 Liaison Working Groups (LWG)
- 2 Marketing Working Groups (MWG)
- ~300 hours of weekly, bi-weekly, monthly, quarterly meetings / year!
- Virtual meetings with 2-3 in person meetings per year
- Various “products” (specifications, notes, test-suites, techniques, etc.)
- 5 new PDF Association documents published in 2024-2025
- Currently supporting 12 ISO projects

PDF Association Working Groups by Type

- Technical Working Groups
 - Full, Partner, Division, Institutional and Individual members
- Liaison Working Groups
 - Also open to liaison members and subject matter expert non-members
 - Non-members must agree to PDF Association Intellectual Property Policy
- Marketing Working Groups
 - Full, Partner, Division, Institutional and Individual members

PDF Association Working Group Operations

- Meeting assets
 - Mailing list, including web-based archive
 - Private workspace on Google Drive
 - Private YouTube playlist for meeting recordings
 - GitHub Repository
 - Google Docs, AsciiDocs, Metanorma
- Meeting schedules
 - Weekly, bi-weekly, monthly, quarterly
 - Meeting reminders and agendas

Working Group Reports

■ Technical Working Groups

- PDF TWG
- PDF/A TWG
- PDF/UA TWG
- PDF Reuse TWG
- 3D PDF TWG
- RichMedia TWG
- PDF/R TWG
- Imaging Model TWG
- Cryptography & Provenance TWG
- Deriving HTML from PDF TWG
- PDF Forms TWG

■ Liaison Working Groups

- PDF Accessibility LWG
- LaTeX Project LWG
- PDF/UA Processor LWG
- 3D PDF User LWG
- PDF Forensics LWG
- Print Product Metadata LWG
- DocRM LWG

■ Marketing Working Groups

- PDF Technology MWG
- PDF/UA MWG

PDF TWG

■ About

- Chair: Peter Wyatt (PDF Association)
- Serve as the clearinghouse for all technical matters pertaining to PDF's core specifications
- Meets bi-weekly to review GitHub <https://github.com/pdf-association/pdf-issues> errata and enhancement requests across all core PDF specifications/extensions
- Forum for researching new PDF features not related to PDF imaging model

■ Achievements

- Included 265 resolved errata in sponsored no-cost ISO 32000-2 Errata Collection 2 (July 2024)
 - ISO TC 171 SC 2 WG 8 approval of additional resolved errata as indicated at <https://pdf-issues.pdfa.org>
- Continuous resolution of errata across 11 different publications
 - Liaising with other TWGs and ISO WGs as required
- Researched new features including Brotli compression, streaming PDF, content stream representation, and object streams
- Published research on Brotli compression in PDF
- Drafted application note guidance on including custom metadata in PDF

PDF TWG

■ Vision/Future

- Publish general application note guidance on including custom metadata structures in PDF (*in process*)
- Publish Brotli filter extension specification
- Continue to regularly publish resolved errata at <https://pdf-issues.pdfa.org/>
- Research new PDF features (as proposed by members and not related to PDF imaging model)

■ Challenges

- Contributions to errata and enhancement discussions in GitHub
- Champions for errata/enhancement topics (indicated by GitHub “Milestone”)
- Champions for new PDF features

PDF/A TWG

■ About

- Chairs: Boris Doubrov (DualLabs) and Leonard Rosenthol (Adobe)
- Collaboration of experts sharing knowledge and experiences with the PDF/A standard
- Meets on a monthly basis to discuss errata and develop assets in support of the archival subset standard for PDF

■ Achievements

- Published Best Practice Guide, “Conforming to both PDF/A and PDF/UA
- Published XMP Extension Schema Templates
- Published “Understanding private data in PDF/A”
- Clarified the requirements for Relax-NG schema in PDF/A-4
- Assisted ISO/ TC 171/SC 2/WG 5 to prepare a new dated revision of ISO 19005-4

■ Future Plans

- Complete the in-flight revision(s) of ISO 19005-4
- Continue addressing issues related to PDF/a

PDF/UA TWG

- About
 - Chairs: Matthew Hardy (Adobe) and Klaas Posselt (Independent)
 - Meets bi-weekly to discuss the norms of accessible PDF
 - Drives development of ISO 14289 and related standards and specifications
 - Develops resources to assist developers and technical experts work with ISO 14289
 - Reviews errata and feature requests specific to ISO 14289 and ISO TS 32005
- Recent achievements and current work
 - Published Best Practice Guide, Conforming to both PDF/A and PDF/UA
 - Currently revising the Matterhorn Protocol for PDF 2.0 and PDF/UA-1
- Future Plans
 - Publish Matterhorn Protocol 2.0

PDF Reuse TWG

■ About

- Chair: Matthew Hardy (Adobe)
- Meets bi-weekly to develop guidance regarding the use of Tagged PDF for content reuse and accessibility
- Works in cooperation with the PDF/UA TWG
- Reviews errata and feature requests specific to Tagged PDF

■ Achievements

- Published Well Tagged PDF Specification
- Continued development of a dated revision of ISO TS 32005

■ Future Plans

- Publish a revised Tagged PDF Best Practice

3D PDF TWG and 3D PDF User LWG

- About
 - Chair: Stuart Galt (Boeing)
 - The 3D PDF TWG meets monthly for technical discussions regarding 3D and engineering-related features in PDF
 - The 3D PDF User LWG meets monthly as a vendor-neutral forum for users of 3D PDF to raise subjects of interest with industry representatives
- Achievements
 - Currently drafting best practice guidance for technical data packages including 3D PDF data
- Vision/Future
 - Publish technical data packages guidelines

PDF/R TWG

- About
 - Chair: Rene Rebe (ExactCODE)
 - Meets on an as-needed basis to review errata and proposals regarding the PF Association's PDF Raster format
- Achievements
 - On hiatus while Imaging Model TWG deliberates
 - Contributing and waiting for input from 2D Imaging Discussion Group
- Vision/Future
 - Review and revise PDF/R Specification with new image compression and encryption

PDF RichMedia TWG

- About
 - Chair: Patrick Gallot (Datalogics)
 - Meeting monthly to discuss technical subjects pertaining to the inclusion of audio, video and interactive media in PDF
- Achievements
 - Evaluated JavaScript with 3D and Rich Media
- Vision/Future
 - Publish Optional Content for Rich Media
 - Study DICOM files in Rich Media annotations
 - Explore RichMedia metadata possibilities

Imaging Model TWG

■ About

- Chairs: Leonard Rosenthol (Adobe) and Peter Wyatt (PDF Association)
- Founded in September 2023 at the Symposium on Advancing the PDF Imaging Model in San Francisco
- Meeting bi-weekly to develop the next-generation imaging model for PDF

■ Achievements

- Published FAQ on HDR in PDF Focus on PDF/A and PDF/X
- Special invited presentations from Chris Lilley (WC) In W3C's HDR work across PNG and CSS and Greg Benz on the challenges of authoring with HDR in modern photography
- Currently reviewing industry developments

■ Vision/Future

- Continue studying HDR and JPEG-XL technologies for integration into PDF
- Continue work on N-Colorant blending spaces
- Finalize work on HDR to make recommendation for PDF

Cryptography & Provenance TWG

- About
 - Chair: Michael Klink (Independent)
 - Meets monthly to review errata against PDF specifications and discuss new initiatives in data integrity and authenticity and digital signatures
- Cryptography Achievements
 - Review and develop dated revisions, as needed, for ISO Technical Specifications ISO/TS 32001 - ISO/TS 32004
 - ISO/TS 32001:2022 - Adding SHA3 family for hashing
 - ISO/TS 32002:2022 - Adding NIST P-curve, Brainpool curve, and Edwards curve EC families
 - ISO/TS 32003:2023 - Adding support of AES-GCM
 - ISO/TS 32004:2024 - Adding HMACs covering whole revisions
- Cryptography Future Plans
 - Continue investigation of PQC
 - NIST approved PQC signing algorithms
 - European Cybersecurity Certification Group agreed-on algorithms

Cryptography & Provenance TWG

- Provenance Achievements
 - Include Coalition for Content Provenance and Authenticity (C2PA) mechanisms in PDF
 - Adopt technical aspects in process as ISO/DIS 22144
- Provenance Future Plans
 - Resolve the Patent issues!

Deriving HTML from PDF TWG

- About
 - Chair: Roman Toda (Foxit Software)
 - Meeting monthly to discuss the portrayal of PDF content in HTML and continue development of the TWG's derivation algorithm for extraction of content from tagged PDF into HTML
- Achievements
 - Version 1.2 of the PDF Association's Deriving HTML from PDF Specification
 - Feedback and work from other groups: 32005, WT/PDF, PDF/UA-2, LaTeX
 - FormsNext (on pause), Accessibility implications
- Vision/Future
 - Republish Deriving specification as structured more interactive resource
 - Interactive and reusable samples
 - Work on 1.3 version based
 - Research optional modes in derivation: Reflow, Accessibility

PDF Forms TWG

- About
 - Chair: Leonard Rosenthol (Adobe)
 - On pause waiting for a new co-chair
- Future Plans
 - Identifying a new co-chair
 - Restarting the Forms-Next work

PDF Accessibility LWG

■ About

- Co-chairs: Markus Erle (axes4); Birgit Peböck (Barrierefrei PDF); Zak Kinsey (TargetStream)
- LWG meeting weekly to work on the techniques with the ad hoc subgroup meeting bi-weekly to identify producers using the techniques
- Develop Techniques for Accessible PDF

■ Achievements

- Posted the initial Techniques release in January 2025
- Posted Techniques for headings in April 2025

■ Vision/Future

- Continue developing, updating and releasing techniques for all Structure Elements in PDF/UA-1 and PDF/UA-2 (2026 and beyond)
- Accessibility Techniques Ad Hoc Subgroup continuing to work on building out a matrix for PDF producers and their ability to properly tag use-cases tied to the techniques

LaTeX Project LWG

■ About

- Chair: Boris Doubrov (Duallabs)
- Meeting monthly to address questions about tagged PDF arising from LaTeX support for PDF/UA and accessible scientific publications
- Active participation in other PDFa TWGs and LWGs for discussing LaTeX- and Math-related questions

■ Achievements

- Draft of a publication “Best practice guide for Math in PDF” will be distributed for review after LaTeX LWG meeting this week

■ Vision/Future

- Draft “Mapping LaTeX semantic model to Tagged PDF semantic model”
- Publish “Best practice Guide for Math in PDF”
- Assist the Accessibility LWG in developing Techniques for Math

PDF/UA Processor LWG

- About
 - Chairs: Paul Rayius (Allyant) and Zak Kinsey (TargetStream)
 - Meeting bi-weekly to discuss a common understanding of requirements for software that consumes PDF for accessibility purposes
- Achievements
 - In collaboration with W3C, established a PDF-AAM Task Force to standardize PDF'S Accessibility API Mappings
- Vision/Future
 - Initialize and build out the AAM
 - Address challenging mappings

PDF Forensics LWG

■ About

- Chairs: Patrick Gallot (Datalogics) and Cherie Ekholm (Verisk)
- Meets monthly to develop resources related to the forensic analysis of PDF documents

■ Achievements

- Currently working on a best practice guide for forensic analysis of PDF files
- Currently developing recommendations on improving ISO 32000

■ Future Plans

- Publish best practice guidance
- Finalize recommendations regarding ISO 32000

Print Product Metadata (PPM) LWG

- About
 - Chair: Dietrich von Seggern (callas software) and Tim Donahue (Independent)
 - Meets monthly to discuss
 - What is Print Product Metadata (PPM)?
 - Addresses a need for customer input to further print automation
 - ISO standard (ISO 21812), works well with PDF/X and PDF/VT
- Ingredients
 - DPart (page based) metadata as specified in ISO 32000-1 (Syntax)
 - XJDF (JDF) job ticket and workflow information (Semantics)
- Use Cases
 - Product intent information (paper type, folding, etc.)
 - VDP record information (recipients)

Print Product Metadata (PPM)LWG

■ Achievements

- Print Product Metadata Application Notes released 2024

■ Future Plans

- Introductory presentation video about Print Product Metadata concepts and use
- Work on dated revision for Print Product Metadata ISO 21812 (Active at CIP4 and ISO TC 130 WG 2)
- Work on a PPM Viewer
- Compatible software (facilitated through PPM LWG work)
 - Prinnect (Heidelberger Druckmaschinen, Workflow)
 - DPartner (callas software, Free Viewer)
 - ???

Document Reference Model (DocRM) LWG

■ About

- Chairs: Jaime Yoon (Hancom) and Dongsun Nam (Hancom)
- Meets monthly to develop a reference model for text document preservation defining document structure, metadata, and representation rules

■ Achievements

- Currently working on ISO/CD 20271-1
- Currently working on ISO/DIS 20271-2
- Strengthened liaisons with key standards groups: PDF/A, PDF/UA and ISO TC 171/SC 2

■ Future Plans

- Publish ISO 20271-2
- Move ISO 20271-1 to Draft International Standard stage
- Begin drafting ISO 20271-3
- Initiate work to expand to more complex, mixed-media documents
- Conduct pilot implementations to validate interoperability

“Ensuring today’s documents remain authentic a century from now.”

PDF Technology MWG

- About
 - Chair: Thomas Zellmann (Independent)
 - Meets monthly to develop and execute industry-based strategies to improve awareness of PDF 2.0 and PDF's unique role in technology and society
- Achievements
 - Articles
 - Developing an anonymous survey to assess industry sentiment as focus in 2025
 - Initiated "PDF in the Wild"
- Vision/Future
 - Conduct the survey and publish results to members

PDF/UA MWG

■ About

- Chairs: Zak Kinsey (TargetStream) and Audrey Cahais (CDP Communications)
- Meeting bi-weekly to identify ways to promote accessible PDF and the PDF Association's related assets

■ Achievements

- Two webinars introducing new techniques
- Presentations at conferences
 - Accessing Higher Grounds
 - M-Enabling

■ Vision/Future

- Webinars on the techniques as released by the Accessibility LWG
- Publish a revised and updated “PDF/UA in a Nutshell” for 2025

Next Step

- Login to pdfa.org
- Join a working group via your Member Area
- Catch up on the working group meetings
 - Meeting notes
 - YouTube private playlist of meeting recordings
- Questions - community-manager@pdfa.org