

# PDF/A-3 Practical and powerful

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# Overview

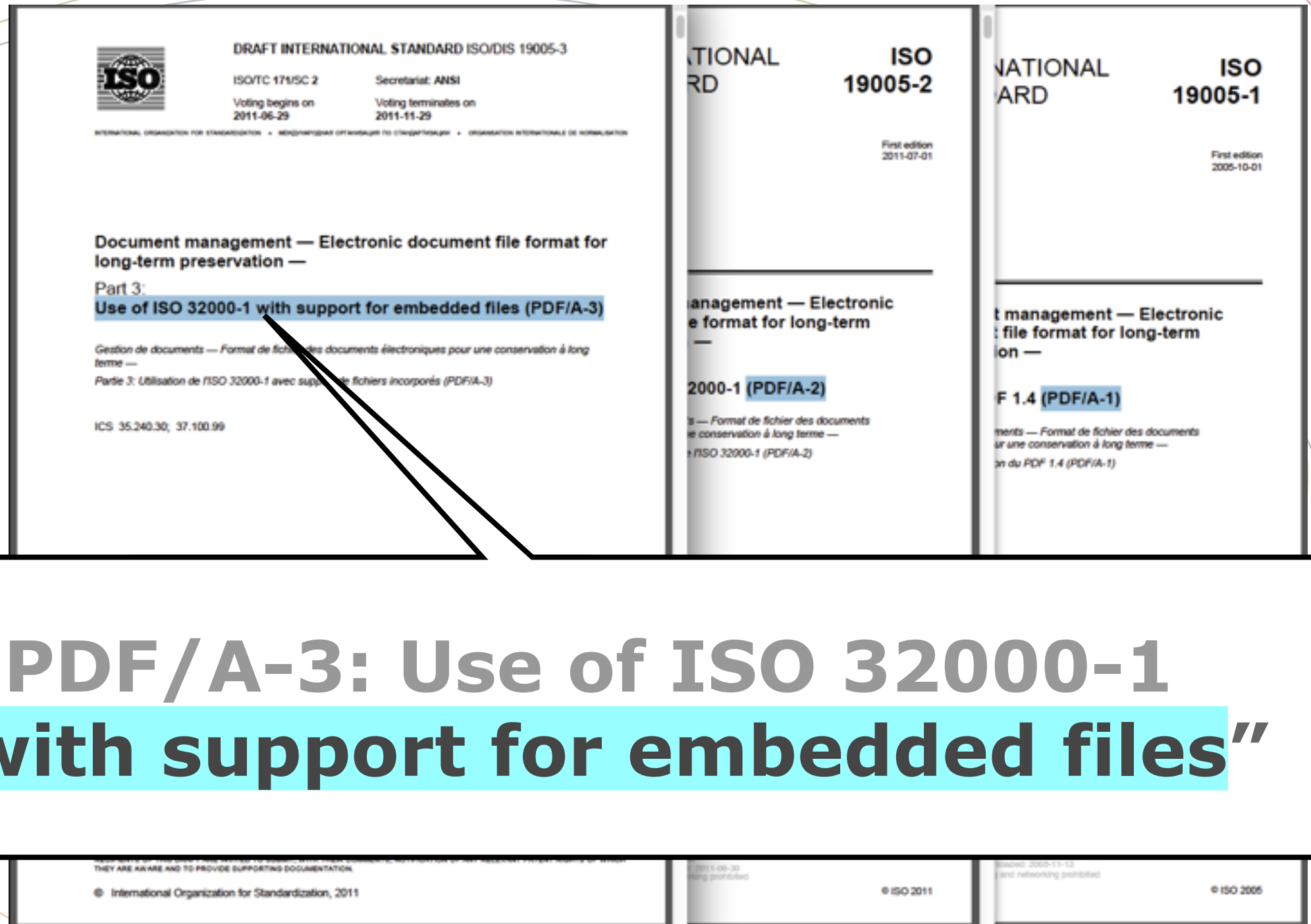
**What makes PDF/A-3 different from PDF/A-2 and PDF/A-1?**

**PDF/A-3 use cases**

- ▀ “Hybrid documents”
- ▀ “Readable for humans and machines”
- ▀ “Digital dossier”

**Conclusion and Outlook**

# The PDF/A family



# PDF/A Standard parts and attachments

**PDF/A-1 (“Classic”)  
No Attachments**

**2005**

**PDF/A**



# PDF/A Standard parts and attachments

**PDF/A-1 (“Classic”)**  
**No Attachments**

**2005**

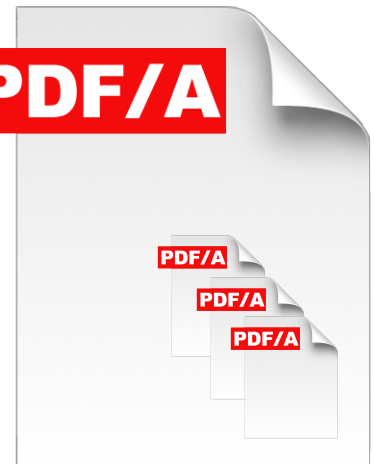
**PDF/A**



**PDF/A-2 (“Newer”)**  
**Attachments if in  
PDF/A format**

**2011**

**PDF/A**



# PDF/A Standard parts and attachments

**PDF/A-1 (“Classic”)**  
**No Attachments**

**2005**

**PDF/A**



**PDF/A-2 (“Newer”)**  
**Attachments if in  
PDF/A format**

**2011**

**PDF/A**



**PDF/A-3 (“Extensible”)**  
**Attachments in arbitrary formats**

**2012**

**PDF/A**



# PDF/A-3 applies some additional rules

**For each attachment metadata needs to be present**

**- Type of relation between attachment and main PDF;  
predefined values:**

- Source
- Alternate
- Supplement
- ...
- Custom values possible

**- File type (MIME type)**

**E.g. MS Word: “application/msword”**

**- Where the attachment relates to  
Document, Page, Page object, ...**

# When should I use PDF/A-3 - and when not?

**PDF/A-1 and PDF/A-2 specify:**

- **A reliable, paper like format for digital documents**
- **Properties of a PDF/A viewer**

**The PDF/A-3 standard part guarantees reliability only for the PDF “shell”, but not for arbitrary attachments**

- **This may sound like a contradiction**
- **So, we should look at some useful scenarios...**



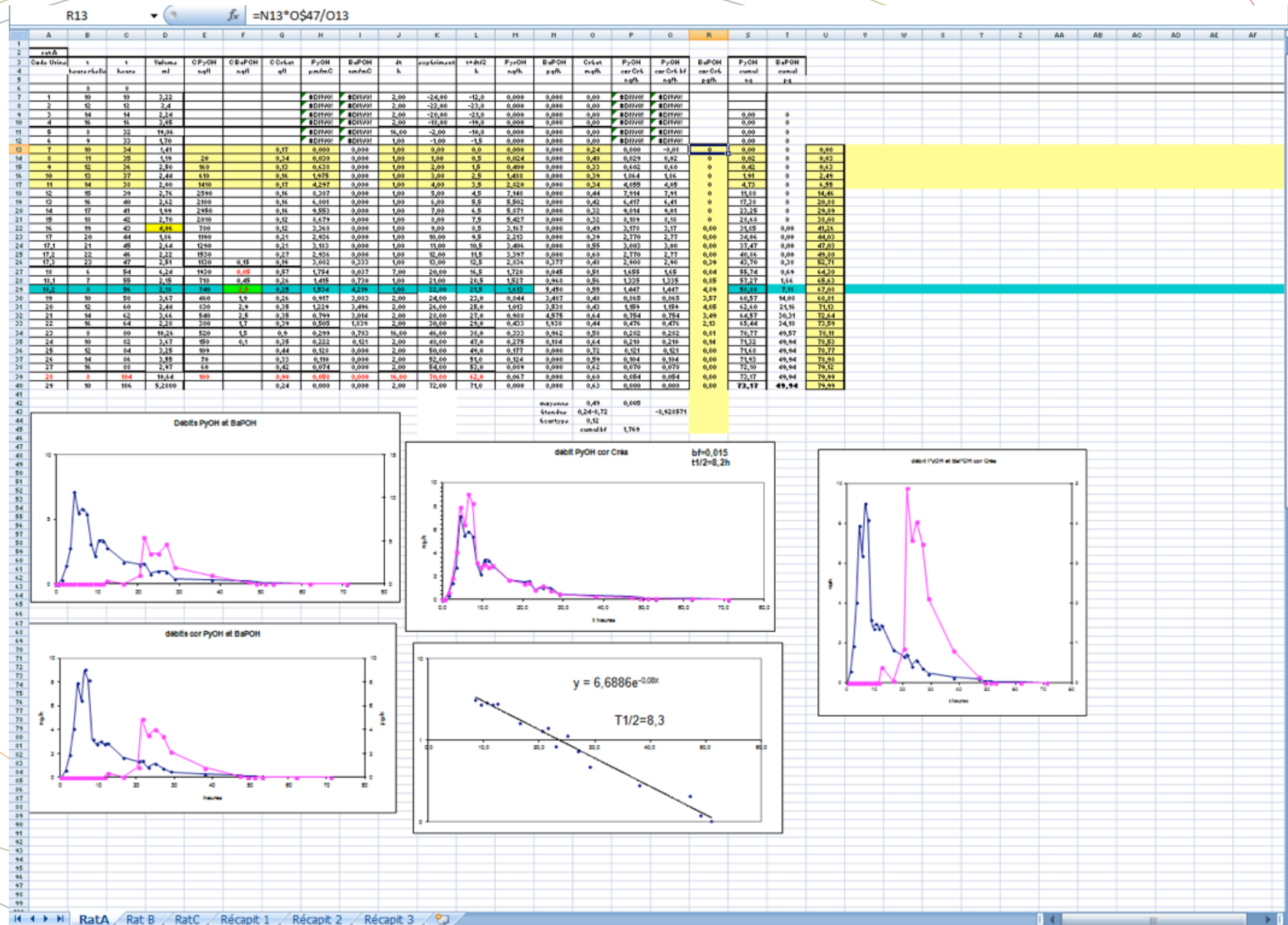


# PDF/A-3 for office documents

“Source file always in reach”



# Spread sheet (MS Excel)...



Spreadsheet

24MTUN6H\_PAH16\_0001 pdfa3.pdf

1 / 51 48.9% Find

rat A	Code Urine	t heure réelle	t heure	Volume ml	C PyOH ng/l	C BaPOH ng/l	C Créat g/l
		8	8				
1		10	10	3,22			
2		12	12	2,4			
3		14	14	2,24			
4		16	16	3,05			
5		8	32	19,06			
6		9	33	1,70			
7		10	34	1,41			0,17
8		11	35	1,19	20		0,34
9		12	36	2,50	160		0,13
10		13	37	2,44	610		0,16
11		14	38	2,00	1410		0,17
12		15	39	2,76	2590		0,16
13		16	40	2,62	2100		0,16
14		17	41	1,99	2950		0,16
15		18	42	2,70	2010		0,12
16		19	43	4,06	780		0,12
17		20	44	1,86	1190		0,21
17,1		21	45	2,64	1290		0,21
17,2		22	46	2,22	1530		0,27
17,3		23	47	2,51	1130	0,15	0,19
18		6	54	6,24	1930	0,05	0,57
18,1		7	55	2,15	710	0,45	0,26
18,2		8	56	2,18	740	2,5	0,25
19		10	58	3,67	460	1,9	0,26
20		12	60	2,44	830	2,9	0,35
21		14	62	3,66	540	2,5	0,35
22		16	64	2,28	380	1,7	0,39
23		8	80	10,26	520	1,5	0,9
24		10	82	3,67	150	0,1	0,35
25		12	84	3,25	109		0,44
26		14	86	3,55	70		0,33
27		16	88	2,97	60		0,42
28		8	104	10,64	100		0,90
29		10	106	5,2800			0,24

débits cor PyOH et BaPOH

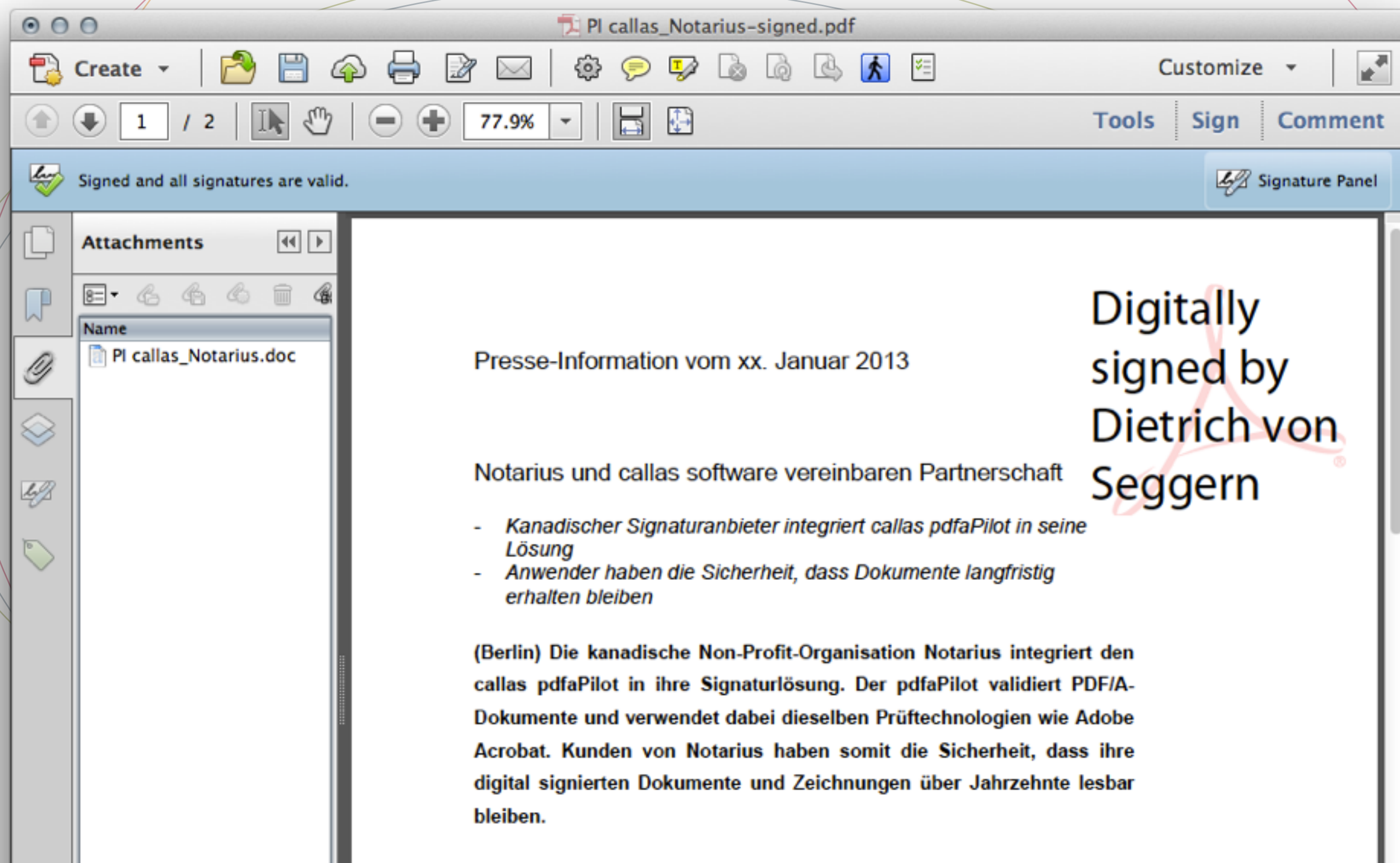
Débits PyOH et BaPOH

Open Save Search

Name	Description	Modified
24MTUN6H_PAH16.xls		28/3/...7



# Digitally sign documents (PDF and Office)



# **A short summary:**

## **Hybrid PDF for Office files**

**PDF/A-3 specialities:**

- ▀ **Relationship entry: Source**

**Blind file exchange**

**Archive at any time**

**Modifications still possible**

**But, too cumbersome to use?**

- ▀ **Actually not,  
e.g. Acrobat XI PDF Maker...**

PDF/A3 Use Cases.ppt [Compatibility Mode] - Microsoft PowerPoint

Home Insert Design Animations Slide Show Review View Acrobat Foxit Reader PDF

Create PDF Preferences Create Adobe PDF

### Acrobat PDFMaker

Settings Security

PDFMaker Settings

Conversion Settings: PDF/A-1b:2005 (RGB)

Use these settings to create Adobe PDF documents that are to be checked or must conform to PDF/A-1b, an ISO standard for the long-term preservation


- ☒ View Adobe PDF result
- ☒ Prompt for Adobe PDF file name
- ☒ Convert Document Information

Advanced Settings ...

PDF/A Compliance: PDF/A-3a

Application Settings

- ☒ Attach source file
- ☒ Create Bookmarks
- ☒ Add Links
- ☒ Enable Accessibility and Reflow with tagged Adobe PDF
- ☐ Convert Multimedia
- ☒ Preserve Slide Transitions
- ☐ Convert hidden slides to PDF pages
- ☐ Convert Speaker Notes

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Restore Defaults OK Cancel Help

Slide 1 of 57 "Titel" German (Germany)

44%



[illegible]

# Readable for humans and machines

# PDF/A-3 and XML

## Electronic Invoicing

- ZUGFeRD (Germany)
  - Blind exchange of digital invoices
  - Reliable paper like invoice that can be printed and used by every accountant
  - Defined XML structure based on UN/CEFACT for recipients using compatible ERP programs
  - Retrieving the XML is “easy” because PDF/A-3 defines a single technique used for embedding
- Similar
  - Nota Fiscal Eletronica 2.0 (Brazil)
  - CFDI (Mexico)

## German civil registry office

## PDF/A-3 specialities:

- Relationship entry: Alternate





# Digital Dossier



# Dossiers with PDF/A-3


## Different file formats

- Documents (e.g. office)
- Machine readable files (XML)
- Images, audio, movies
- Raw data (e.g. measurements)

## Examples

- E-Mail
  - Plain text or HTML + arbitrary attachments
- Engineering and Manufacturing
  - 3D models, technical documentation, project documentation

# Use case: Project archival at Sika, Switzerland




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## Sika Group

Sika AG, Switzerland, is a globally active specialty chemicals company. Sika supplies the building and construction industry as well as manufacturing industries (automotive, bus, truck, rail, solar and wind power plants, façades). Sika is a leader in processing materials used in sealing, bonding, damping, reinforcing and protecting load-bearing structures. Sika's product lines feature high-quality concrete admixtures, specialty mortars, sealants and adhesives, damping and reinforcing materials, structural strengthening systems, industrial flooring as well as roofing and waterproofing systems.

► [Explore the Sika world in ambitions-direct](#)

## Flooring

Sika is the world technology leader in flooring solutions. The company provides innovative flooring and coating systems that use less energy and resources by comparison with other technologies and systems. Proven performance, healthy indoor air quality, low maintenance and utility costs are only some of the manifold benefits.

► [Innovative Flooring](#)

## Refurbishment

Sika offers refurbishment solutions to extend the lifetime of existing buildings and infrastructures by reducing the refurbishment frequency and material flows. In doing so, Sika solutions contribute to sustainability and environmental impacts and cost savings. They aim to excel in the main sustainability drivers in refurbishment.

► [Sustainability Drivers](#)

## Sika Worldwide

► [Choose your Country](#)



## Investors

Current shareprice: **CHF2,553.00**  
2013-07-15, 12:41, +0.12%  
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# Motivation

## **Project documentation to be archived**

- Documentation of quality management
- Products (e.g. industrial glue) are used in critical environments like bridges or vehicles
- But no legal requirements

## **Digital archive**

- Faster retrieval
- Archive is used as knowledgebase

## **Painful experiences when an “old” document management system had to be replaced**

- Project documentation had to be manually reconstructed



# Requirments for the digital archive

**Standard format to be used for archival of projects  
(and not just of documents)**

- Independent from document management system (Hype)

**“Indexfiles” to be automatically created for each  
archived project**

**Automated archiving when a project is set to the final  
workflow status**

- Conversion during nights when system load is low

**Export metadata from the system into the project files  
(title, author, project number, etc.)**

**Numbers**

- 17000 active projects
- 40000 attachments

# Sika / Hype: Product Development Process (1)

## Example

Status: PDP Released  
Type: PDP



on Field Test Proposal Release Proposal **PDP Overview** Team PCP HELP Digital Signatures PCP Log ◀ ▶

### Proposal PDP

Requestor (Project Manager) ?

 RnD.InfoCenter 

Request Date ?

18.06.2013

Title PDP

Example

Abstract

Testing

Co-Author(s)

Select Co-Author(s)...

Milestone

M1 

Select Milestone...

Expected Release Date

 17

# Example index file for “Sikaflex” PDF/A-3 archive

PDP\_Sikaflex123\_0002.pdf - Adobe Reader

Datei Bearbeiten Anzeige Fenster Hilfe

Werkzeuge Signieren Kommentar

Anlagen







Öffnen

Name

- DevelopmentDoc\_Sikaflex123.pdf
- FieldTestProposal\_Sikaflex123.pdf
- FieldTestProposal\_Sikaflex123.xls
- ProjectDetails\_PDP-2013-0123.p...
- ProjectProposal\_Sikaflex123.doc
- ProjectProposal\_Sikaflex123.pdf

## Product Development Process: Sikaflex123

pdfaPilot: - Zusammenfassungsbericht der eingebetteten Dateien erzeugt von Win7 am Mittwoch, 3. Juli 2013 um 13:13 - 6 eingebettete Dateien

Name der eingebetteten Datei	Dateigröße	Erzeugt am	Geändert am
 ProjectDetails_PDP-2013-0123.pdf	3.5 MB	03.06.2013 15:56	03.06.2013 15:56
 ProjectProposal_Sikaflex123.doc	92.5 KB	09.10.2012 16:32	09.10.2012 16:32
 ProjectProposal_Sikaflex123.pdf	208.9 KB	03.07.2013 10:21	03.07.2013 10:21
 DevelopmentDoc_Sikaflex123.pdf	61.4 KB	29.08.2012 14:09	29.08.2012 14:21
 FieldTestProposal_Sikaflex123.pdf	252.05 KB	03.07.2013 10:21	03.07.2013 10:24
 FieldTestProposal_Sikaflex123.xls	14.06 KB	04.10.2012 14:11	04.10.2012 14:11

# **A short summary:**

## **Digital PDF/A-3 project dossier**

### **PDF/A-3 specialities:**

- Relationship: Supplement

### **Various file formats combined with each other to a dossier**

- “Richer” formats than PDF/A
  - 3D
  - Movies
  - ...





## Conclusion and Outlook



# Good reasons for PDF/A-3 in archives

## **“The document is still alive”**

- Minimal conversion when archiving
- Visual integrity when working with documents

**Machine readable (XML) attachments combined with a reliable rendering for humans**

**Not all project files can be converted to PDF/A**

- Movies, audio, 3D...
- Richer files (e.g. Excel)

# PDF/A-3 as archive format

**PDF/A-1 and PDF/A-2 are always archive formats:**

- ▀ When archiving convert any file into PDF/A and validate
- ▀ All done

**PDF/A-3 as archive format:**

- ▀ No full validation on file format level
- ▀ Additional rules and “validated” workflows?
- ▀ Profile based validation for specific requirements e.g.
  - Only a single Excel file with relationship “Source”
  - Only a single XML file
  - Only office files
  - Only digital drawings, e.g. JT

# Thank you! Questions?



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