



Science For A Better Life

# Unleash the power of Adobe Acrobat<sup>®</sup> using JavaScript<sup>®</sup>

12OCT2015/Oliver Wirtz



# Forward-Looking Statements

This presentation may contain forward-looking statements based on current assumptions and forecasts made by Bayer Group or subgroup management.

Various known and unknown risks, uncertainties and other factors could lead to material differences between the actual future results, financial situation, development or performance of the company and the estimates given here. These factors include those discussed in Bayer's public reports which are available on the Bayer website at [www.bayer.com](http://www.bayer.com).

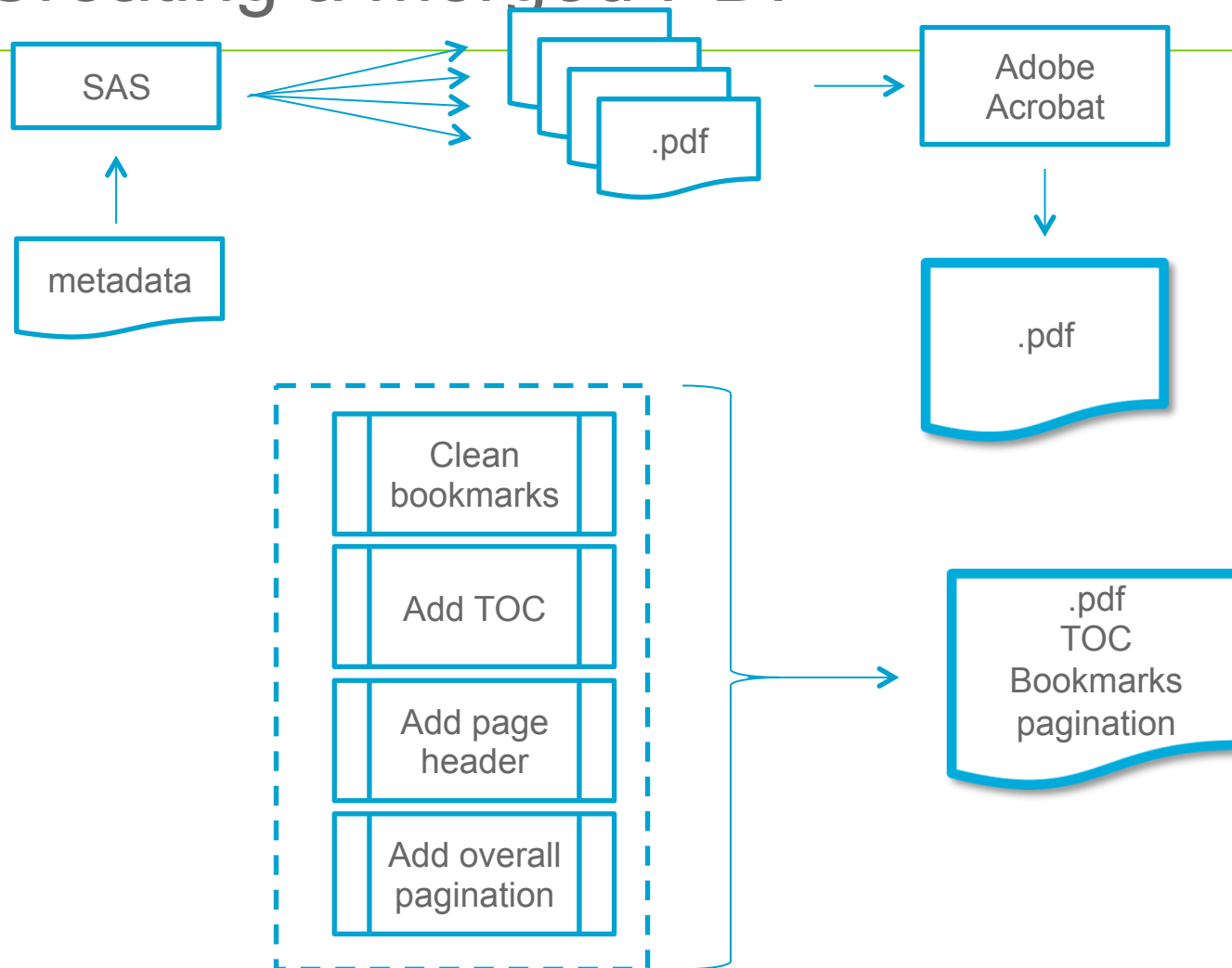
The company assumes no liability whatsoever to update these forward-looking statements or to conform them to future events or developments.



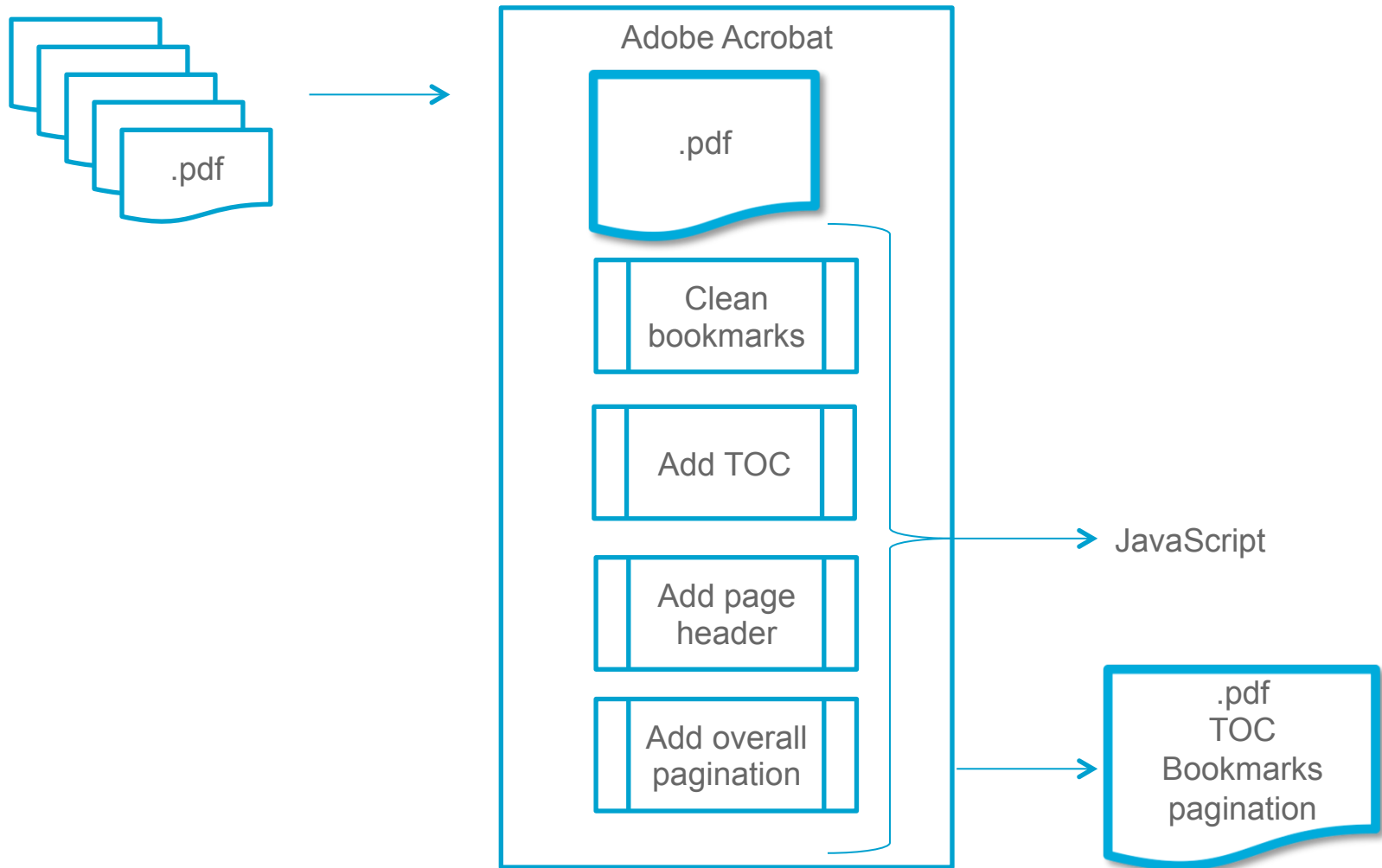
## Agenda

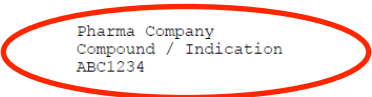
- Introduction
- Common approaches to create merged files with additional features
- Adobe Acrobat
  - Setup of environment
  - Use of JavaScript to manipulate bookmarks and to create table of content (TOC)

# Creating a merged PDF



# JavaScript





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Table 5.1  
Incidence of TEAEs for All Subjects  
Analysis Set: Safety Set

MedDRA v18.0 System Organ Class Preferred Term	Weight group 10 - <20kg N=11			Weight group 20 - <40kg N=57			Weight group >=40kg N=90			Total N=158		
	n	(%)	[#]	n	(%)	[#]	n	(%)	[#]	n	(%)	[#]
Drug System Organ Class	0	0.00	0.00	0	0.00	0.00	0	0.00	0.00	0	0.00	0.00
Blood and lymphatic system disorders	0			0	0.00	0.00	0	0.00	0.00	0	0.00	0.00
Lymphadenopathy	0			0	0.00	0.00	0	0.00	0.00	0	0.00	0.00
Leukemia	0			0	0.00	0.00	0	0.00	0.00	0	0.00	0.00
Leukopenia	0			0	0.00	0.00	0	0.00	0.00	0	0.00	0.00
Lymphadenitis	0			0	0.00	0.00	0			0	0.00	0.00
Monoclonoma	0			0	0.00	0.00	0			0	0.00	0.00
Leukopenia	0			0			0	0.00	0.00	0	0.00	0.00
Lymphoma	0			0			0	0.00	0.00	0	0.00	0.00
Neutropenia	0			0			0	0.00	0.00	0	0.00	0.00
Thrombocytopenia	0			0			0	0.00	0.00	0	0.00	0.00
Infection disorders	0			0			0	0.00	0.00	0	0.00	0.00

MedDRA=Medical Dictionary for Regulatory Activities. TEAE=Treatment-Emergent Adverse Event.  
n=number of subjects reporting at least one TEAE within System Organ Class/Preferred Term. (%)=percentage of subjects among total N. [#] is the number of individual occurrences of the TEAE.  
Note: Table includes all TEAEs for all subjects.  
Data cut-off date=2015-06-30

Program: t\_ae02a, 01JUL2015 19:56

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# Common PDF features II

Pharma Company  
Compound / Indication  
ABC1234

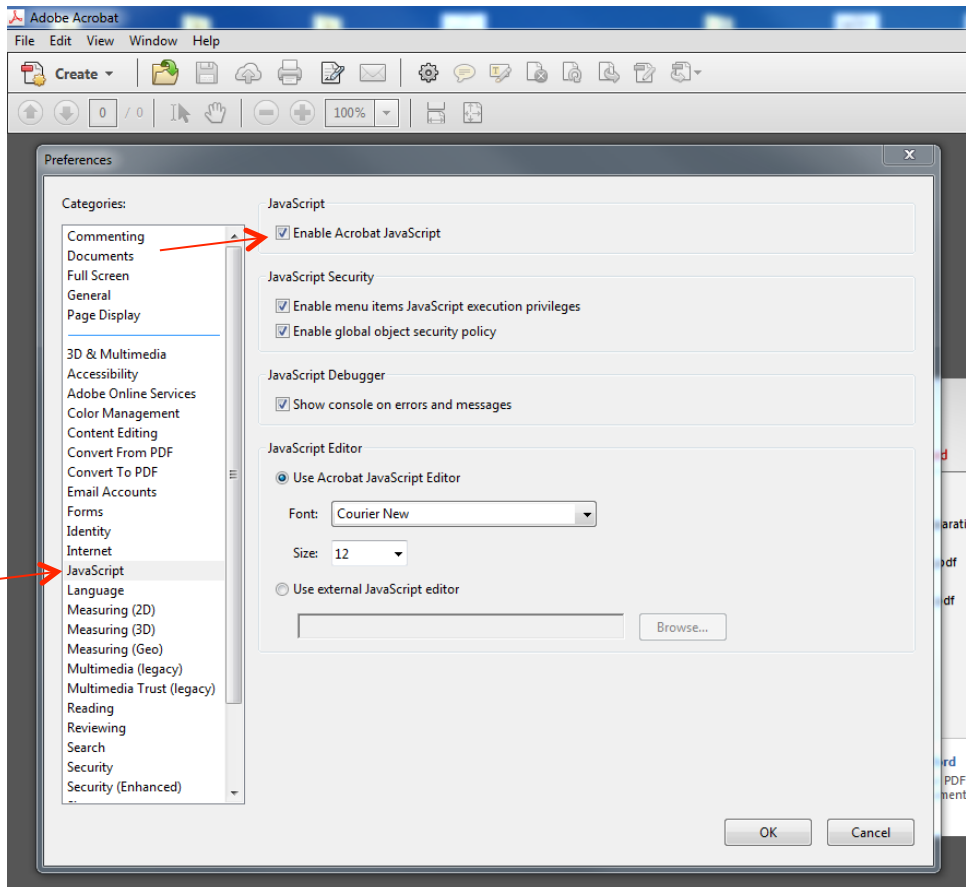
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Table 5.2-Incidence of TEAEs for All Subj-Safety Set .....	3
Listing 5.1-All AEs-Safety Set .....	4

# General Setup

## 1. Open Acrobat, go to Edit -> Preferences







# JavaScript folders

**Public folder** in Acrobat root folder structure under /programs e.g.

C:\Program Files\Adobe\Acrobat 11.0\Acrobat\Javascripts

- usually no write access
- Bad for code development
- Good for deployment and maintenance of code, esp. if hosted on server

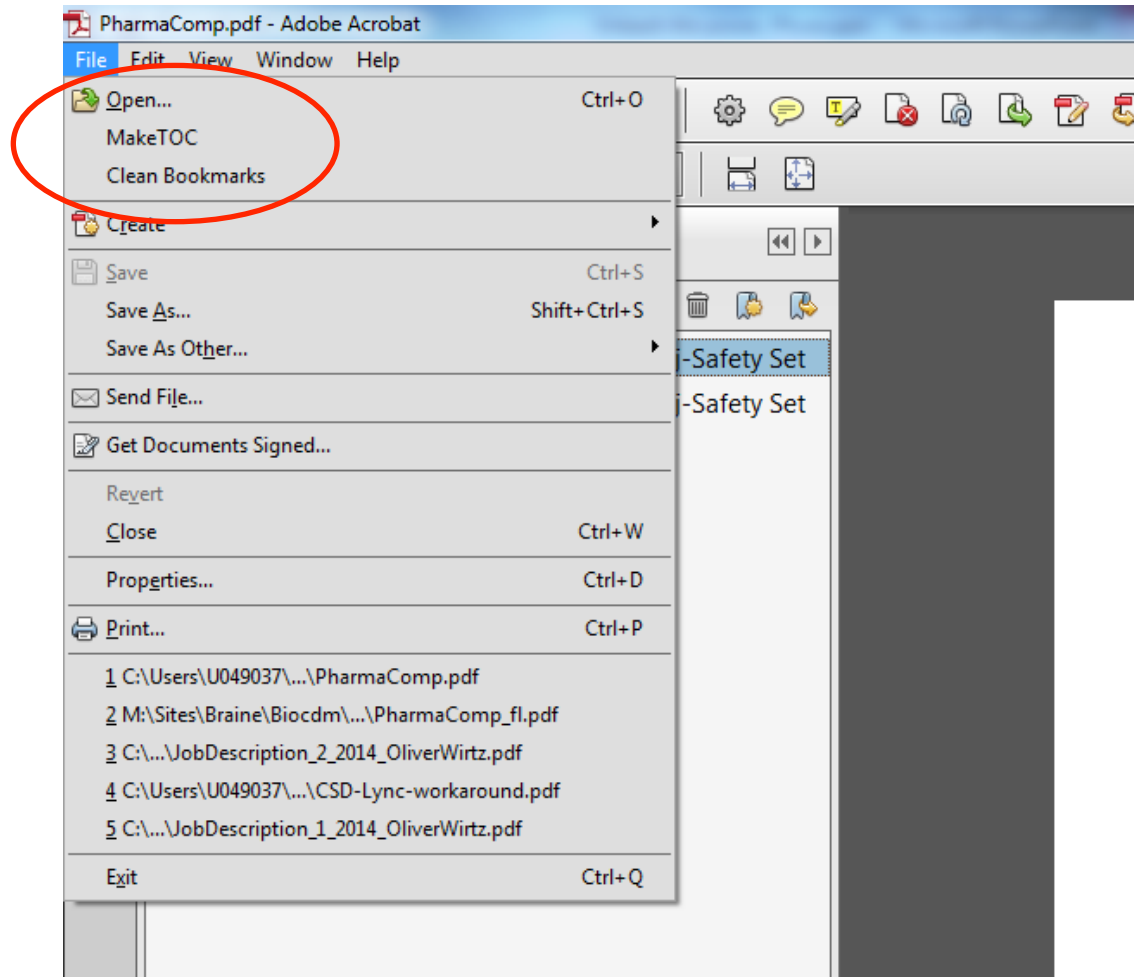
**Personal folder** (does not exist by default for Acrobat 10 and higher)

C:\Users\<Username>\AppData\Roaming\Adobe\Acrobat\Privileged\11.0\JavaScripts

- Always write access
- Should be used for code development

Upon start of Acrobat both folder locations are scanned for files and JavaScript files (\*.js) are compiled

# Scripts can be added to menu





# Creating a Table of Contents

- Manually combine multiple PDF files into a single PDF
- Clean Bookmarks
- Use bookmark text as TOC entries
- Calculate number of TOC pages needed based on number of bookmarks
- Retrieve page header (scan first page)
- Add overall pagination



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Table 5.1  
Incidence of TEAEs for All Subjects  
Analysis Set: Safety Set

MedDRA v18.0 System Organ Class Preferred Term	Weight group 10 - <20kg N=11			Weight group 20 - <40kg N=57			Weight group >=40kg N=90			Total N=158		
	n	(%)	[#]	n	(%)	[#]	n	(%)	[#]	n	(%)	[#]
Any System Organ Class	15	100.00	1500	57	100.00	1500	90	100.00	1500	162	100.00	1500
Neuro and Cognitive System Disorders	15			17	100.00	1500	35	100.00	1500	67	100.00	1500
Cognitiveimpairing	15			17	100.00	1500	35	100.00	1500	67	100.00	1500
Headache	15			17	100.00	1500	35	100.00	1500	67	100.00	1500
Dizziness	15			17	100.00	1500	35	100.00	1500	67	100.00	1500
Cognitiveimpairing	15			17	100.00	1500	35	100.00	1500	67	100.00	1500
Memoryimpairing	15			17	100.00	1500	35	100.00	1500	67	100.00	1500
Attentionimpairing	15			17	100.00	1500	35	100.00	1500	67	100.00	1500
Concentration	15			17	100.00	1500	35	100.00	1500	67	100.00	1500
Cognitiveimpairing	15			17	100.00	1500	35	100.00	1500	67	100.00	1500
Memoryimpairing	15			17	100.00	1500	35	100.00	1500	67	100.00	1500
Attentionimpairing	15			17	100.00	1500	35	100.00	1500	67	100.00	1500
Concentration	15			17	100.00	1500	35	100.00	1500	67	100.00	1500
Neurotic Disorders	15			17	100.00	1500	35	100.00	1500	67	100.00	1500

MedDRA=Medical Dictionary for Regulatory Activities. TEAE=Treatment-Emergent Adverse Event.  
n=number of subjects reporting at least one TEAE within System Organ Class/Preferred Term. (%)=percentage of subjects among total N. [#] is the number of individual occurrences of the TEAE.  
Note: Table includes all TEAEs for all subjects.  
Data cut-off date=2015-06-30

Program: t ae02a, 01JUL2015 19:56

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$$N=1 \quad N=2 \longrightarrow \dots$$



# Retrieve page header II

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k=90

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n=94

p=96

Table 5.1

Incidence of TEAEs for All Subjects  
Analysis Set: Safety Set



# Final TOC page

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## TABLE OF CONTENTS

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# Two objects for two tasks

```
var f = this.addField(TOC_txt + i, "text", 0, [61, 530-(((TOCposition+(i/3))  
f.textColor=color.blue;  
f.textSize=9;  
f.multiline=true;  
f.alignment="left";  
f.textFont=font.Cour;  
f.strokeColor= color.transparent;  
f.fillColor= color.transparent;  
f.value=splittext2 + "\n" + splittext3;
```

```
var mylink = this.addLink(0, [61, 530-(((TOCposition+(TOCposition/3))*20)+50)  
mylink.setAction("this.pageNum = " + this.pageNum);  
mylink.highlightMode = "None" ;
```







# Final appearance of the TOC

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# Advantages using JavaScript

- It's fast. Processing a file of 1000 pages takes < 1 minute
- No manual editing involved
- TOC generation independent from TFL production
- No need to re-run TFL when composition of merged file changes (e.g. files added/removed)
- Functionality can be customised and standardised
- Deployment and maintenance of code very easy
- Apart from Acrobat Standard licence no additional costs
- (Almost) No training needed



# Disadvantages of using JavaScript

- FDA doesn't accept it!
- Document Management Systems often accept Acrobat 5 only

Solution:

Either use commercial package for submission purpose

or

Infuse PostScript code

However:

Most deliverables are not directly used in submissions but just meant for internal review.



# Sample Project on GitHub

Complete code can be found in  
[https://github.com/OliverWirtz/acro\\_toc](https://github.com/OliverWirtz/acro_toc)

Contact the author:  
[oliver.wirtz@bayer.com](mailto:oliver.wirtz@bayer.com)



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# Thank you!

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