

Memorandum of Understanding

Technical specifications of image transfer and XMP/IPTC data description

1. Introduction

The image database (INFORPIC) stores on its servers JPEG image files (24-bit) in four resolutions (thumbnail, low, med, high), and, if available, in 48-bit (TIFF) high resolution. These files are automatically generated by INFORDATA's ZoomServers from the largest resolution available. During this zoom process all data concerning copyright, caption, description, location, keywords, model release, clearance, etc., will be embedded into the IPTC headers. These metadata can be easily encoded and decoded by most popular photo editing software such as Adobe Photoshop.

Available Resolution

The resolutions for the longest image side are as follows:

Thumbnail: 190 Pixel (24Bit), (JPG compression 70)
LowRes: 600 Pixel (24Bit), (JPG compression 80)
MedRes: 5000 Pixel (24Bit), (JPG compression 80)
HighRes: maximum resolution (24-bit), usually up to 8000 pixels or more
(TIFF-ZIP compression 100 without any loss of quality)

many images are available in:

SuperHighRes: 48-Bit TIFF-ZIP up to 10000 Pixel pixels or more, no compression.

For each image there is - on request - a separate IPTC text file available (ready for display and EXCEL-compatible), later we will provide additional XMP and XML files.

File transfer is done using FTP or SFTP – for other transfers please contact us.

2. Image processing

The import of image files can take place in all major file formats (. Jpg. Jpeg. TIFF. Tif. Fpx. Bmp. Eps. Psd. Crw). A possible image compression in some file formats should be avoided or set to the highest possible image quality. The image resolution must be the maximum available resolution of the original image, but do not use interpolated resolutions. The caption programs used for the IPTC. header, should write the data according to IPTC or XMP standard. Please do label prior the data fields 'description' and 'keywords'.

In addition, a delivery of meta data is possible with separate EXCEL files. These data may also contain additional information that is not present in the IPTC header of the corresponding image file. Overlays of the information is no problem. This information supplements during the image import the information in the IPTC header, however, is always stored in addition to the database.

The file name should not contain any special characters (such as! "\$ % & / =? # * ~ ^ ` \) and no umlauts. Individual spaces are no problem, but do not insert extra spaces in the file name to get a differentiation in several identical file names. This must be avoided because during the image import double spaces are reduced to an underscore. Please use no double image numbers for image files in different folders.

When you import images, a new image number for each image file is assigned, while the ZoomServer automatically stores the OriginalPhotographerNo (name of the source file without the file extension) in the IPTC header of the image file.

By default, the MedRes file (or the desired resolution) is transmitted via FTP into the specified home directory. The file name is derived from the image number (ImageNumber.jpg).

2.1 FTP-Transfer

FTP transfer will be active 21 hours every day, however, it can be set a daily service window without data transfer. The file transfer is usually inactivated between 0:00- 3:00 a.m. local time (Germany) and observes the registered service window of the image receptor outside this time.

The data transfer is continuously monitored and treated fault-tolerant. In case of connection error, data transfer will be repeated automatically in growing time intervals before an error message is generated.

2.1.1 Takeover of data

After the complete reception of an image file (wait for ending of file transmission by checking the file length or generating the checksum) the image receptor is processing the file (like conversion of resolution, decoding XMP/IPTC, generating search terms, assigning copyright assignment of the locks and releases for using and countries, etc.). The image receptor, thereafter, deletes the images from the FTP directory, this can happen after some time delay. This deletion serves as an indicator for a successful image import, a process which can be monitored easily by the respective FTP program.

If certain images (eg. for editorial or technical reasons) were not accepted, so these images should be moved in a folder 'NoImport'. This directory is read regularly and the corresponding pictures are given a lock flag, so that they are not transmitted again

2.1.1 Errorhandling

In case of import failure caused by eg. corrupt XMP/IPTC infos or incomplete image data, the image receptor transfers the file into an ERROR directory. The image receptor guarantees that the successful import of a file with same name into the home directory leads to the deletion of the correspondent corrupt file in the ERROR directory. This may occur when a file transfer was interrupted and later successfully resumed. The image database (INFORPIC) will read-out the ERROR directory every day and automatically initiates the respective processes, such as recalculation of the image data and a new file transfer.

2.2 Update

If a file is already stored in the archive of the image receptor the new file replaces the older file and all data must be updated.

2.3 Delete

In case an image must be deleted - for whatever reason – the image database (INFORPIC) transfers a DELETE file (image_number.del) of 0 bytes size. The image receptor guarantees that this delete file triggers the deletion of the file stored in the archive. A distribution is no longer allowed.

Note: For technical reasons, it can happen that DELETE files are transmitted repeatedly.

2.4 Web portals

Web portals are selling platforms through which the agency is marketing the transferred images. This information is only relevant if data from the image database (INFORPIC) is exported, for import this section is not relevant, also if the images are marketed and billed himself from the image receiver.

2.4.1 Logfile from web gateways

This chapter is only relevant in case of export data from the image database (INFORPIC) to a web gateway, if there is an import, then this section shall not apply as well if the images are marketed and invoiced by the image receptor itself.

If the images are presented (in the context of a web gateway mediator), for each download, which is relevant for charging (eg. download high res), a record must be produced in a daily log file.

Here is an example of the data structure of a log file:

Owner name of picture source (eg. Name of picture-agency)	
Username	UserID of image user
Company	company of image user
Object	type of image user
Username	name of image user
DateDownload	date of download
PicNr	picturenumber (filename) of download
Copyright	Copyright line of image
Resolution	resolution of image during download
UseFor	type of image use according to the user's input
Price	price according price calculation, in case there is a price calculator on the web
Currency	currency of price
Notice	free text for more information from image user

The actual data structures, after consulting, for each web gateway maybe freely agreed upon and adapted to existing possibilities. These log files must be produced daily from the Web gateway and made available in an agreed upon FTP directory, if at least one download was made. The name of the log file is derived from the current date (YYYYMMDD), the format of the log files can be csv, .xls or .txt.

The log files are regularly read out and erased after a longer time from the image database (INFORPIC).

2.4.2 Transfer of UserID

This chapter is only relevant in case of export data from the image database (INFORPIC) to a web gateway, if there is an import, then this section shall not apply as well if the images are marketed and invoiced by the image receptor itself.

The web gateway (mediator) must ensure that the UserID of the download user is currently available. There are various possibilities to transmit the data but the most preferred way is automatic transmission. The data must include the UserID of webuser and the full address of the user. The data file (UserID.txt) is always written separately with a line header and a line of data.

2.4.3 Example (without transfer of activation back to web gateway)

UserID	UserID (login name web gateway), eg. ABC04711)
Email	email address of user
Name1	name 1
Name2	name 2
Name3	name 3
Firstname	first name user
Lastname	last name user
Country	country of using address
ZipCode	zipcode of address
City	city
Street	street
Phone	phone (preferably international notation (eg. +49 30/7411-455))
Fax	fax No. (preferably international notation (eg. +49 30/7411-555))
Salutation	salutation user
Title	title user
www	web address of the user
VatID	VatID of the user's company

The actual data structures, after consulting, for each web gateway maybe freely agreed upon and adapted to existing possibilities.

2.4.4 Example (with transfer of activation back to web gateway)

UserID	UserID (login name web gateway), eg. ABC04711)
AddressNr	address number of the user's company (notified transmission to web gateway)
Password	password user (if necessary for activation)
Email	email address of user
Show_Thumbnail	show in web thumbnail allowed (yes=1, no=0)
Show_Medium	show in web medium allowed (yes=1, no=0)
Show_High;	show in web high allowed (yes=1, no=0)
Show_Original	show in web original allowed (yes=1, no=0)
Save_Thumbnail	thumbnail download allowed (yes=1, no=0)
Save_Medium	medium download allowed (yes=1, no=0)
Save_High	high download allowed (yes=1, no=0)
Save_Original	original download allowed (yes=1, no=0)
Watermark_Thumbnail	thumbnail watermarked download allowed (yes=1, no=0)
Watermark_Medium	medium watermarked download allowed (yes=1, no=0)
Watermark_High	high watermarked download allowed (yes=1, no=0)
Scale	image zoomed allowed (yes=1, no=0)
LoginPerm	permanent login allowed (yes=1, no=0)
Name1	name 1
Name2	name 2
Name3	name 3
Firstname	first name user
Lastname	last name user
Country	country of using address
ZipCode	zipcode of address
City	city
Street	street
Phone	phone (preferably international notation (eg. +49 30/7411-455)
Fax	fax No. (preferably international notation (eg. +49 30/7411-555)
Salutation	salutation user
Title	title user
www	web address of the user
VatID	VatID of the user's company

The actual data structures, after consulting, for each web gateway maybe freely agreed upon and adapted to existing possibilities.

3. Data Transmission

3.1. FTP transmission

The following data are required for FTP setup:

IP address or name of the server

UserID

Password

active / passive mode

remote directory

max. number of simultaneous connections

daily service hours (without data traffic)

In the test phase, the system will transmit a reasonable amount of image files to test the procedure of data transfer and workflow. After successful completion of the test series regular operations are started.

3.2. Transmission by disk / CD / DVD

This transmission is due to the manual process considerably more expensive, as additional sources of error are present. Some of the operations that are described here do not apply, however, update and delete must be ensured.

UPDATE: If a file is already stored in the image receptor's database, the newer file replaces all previous data.

DELETE: If an image should be deleted - for whatever reason - there will be a DELETE file (PicNo.DEL) or an email sent with a delete message. In any case, this should cause the image receptor to delete the image data and associated data, or ensure that a lock-distribute is made.

4. Data exchange with XMP/IPTC data fields

4.1 General Notice

Unfortunately, there is no structured way for XMP/IPTC data reliably to be written into databases. Many data fields are described incorrectly or misused and therefore again and again cause problems in data acquisition.

Also over time new techniques have been developed in XMP/IPTC, which unfortunately often lead to the fact that certain programs store data fields but the other programs can not even read them. A control for multiple languages and for limitation of countries or use is not available. An attempt was therefore made to find an optimal solution based on a minimum of XMP/IPTC data fields, including language recognition. 'Exotic' data fields are not used.

The company INFORDATA has hereby developed a solution with which the necessary data fields for a database or search engine can be generated easily from the XMP/IPTC data.

The XMP/IPTC data can, despite the new structures, be taken according to previous procedures, but the additional information that is available for the separation of languages, classifications, categories and use approvals or use locks maybe lost then.

All texts, which are encased in square brackets are not keywords for the search engine, but are about controlling the data storage when reading the XMP/IPTC data, or only become visible in the display of XMP/IPTC text.

The new data structures allow multilingual search, the selection of classes (technical selection), by category (thematic classification) and the inclusion of country shares and locks in addition to instructions for use of shares and locks included.

As the lowest level for all data fields Adobe Photoshop CS2 is used as a reference, all data structures have been tested at this level for compatibility.

4.2 Supported IPTC data fields

The following XMP/IPTC data fields are saved in the export mode or are read during the import:

Headline	XMP/IPTC - Headline
Caption	XMP/IPTC - Caption incl. filler words and stop words
CaptionWriter	Name / company of CaptionWriter (eg. Name of picture-agency)
CreationDate (Date)	XMP/IPTC - Date of last revision (Date of the picture can possibly be collected from the EXIF data)
Keywords {Array} (Keywords)	XMP/IPTC - list of keywords, without fillers and stop words
City (Place)	XMP/IPTC-location from the subject of the picture, indication of province / state, country or continent too empty
ProvinceState (Province / State)	empty
Country (Country)	empty
Category (Category)	3-digit letter code for primary Category
SupplementalCategories {Array} (add. Categories)	additional categories and classes
Title (Title)	Image no. in archives and (if available) the original Image no. of the photographer (Separated by, and always ends with;) (eg. [PicID] FF12345678.800; [OriginalPhotographerNo.] 7W45); internal information for automatic image processing
JobName (Job ID)	Indicate the copyright if published (Eg. © Peter click / PicPool / picture-agency))
CopyrightNotice (Copyright)	copyrighted
Copyrighted (Copyright-Status)	Internet address of the copyright holder
OwnerUrl (URL Copyright-Info)	Source of the image (eg. picture-agency / New-York)
Author (Autor)	empty
AuthorPosition (Author Title)	Editor of the image (eg. picture-agency / New-York)
Credit (Image rights)	Information, notes (eg use only at a fee ..)
Instructions (Instructions)	Info box for questions (eg. info@picture-agency.com)
Source (Source)	Internal information for image transmission
TransmissionReference (Image editor code)	no entry
Urgency (Urgency)	

Note: All other data from the XMP/IPTC header and / or embedded in the image file data containers are not considered until further data technology, that is neither imported nor exported. Existing data in those containers from the original image data thus remain unchanged.

All EXIF data (original image / camera data) are unchanged and may also be taken. The data structures and messages here are very different depending on the source and can therefore be limited or processed fully automatic expensively.

4.3 Language marks

The exported image files contain standard language marks that have been generated automatically from the data of the database. In all data fields (except in XMP / IPTC SupplementalCategories - see item 7) language marks in ISO639-2 can occur. This language marks (eg [de] = German [en] = english [fr] = French [la] = latin, ...) are at the beginning of a language block.

For marking and separation of individual language block, additionally, a pipe sign | at the beginning of each language block is inserted, as this technique is used by some search engines.

If texts by the system (temporary) were translated automatically, then behind the language mark the mark [AUTOTRANSLATE] is inserted. After a manual review / improvement of the image description has been made, the image without the mark [AUTOTRANSLATE] is retransmitted.

4.3.1 Processing of language marks

Most of the language blocks for better view of the XMP/IPTC data in Adobe Photoshop end with a carriage return, with a few exceptions such as the location (IPTC City). If in future versions of Adobe Photoshop the views are improved, we then reserve the right to insert line breaks in these XMP/IPTC fields too. Our recommendation is therefore in principle when transferring the data to always search for new lines and then remove or ignore accordingly.

The location IPTC City may also contain generic locations (eg continent, country, region, ...). A separation of the information provided in this IPTC field is not possible for technical reasons, of course, during the import all the data in the field are read accordingly.

In the keywords (IPTC keywords) the language marks are a separate keyword, due to the internal list structure (array) there are no carriage returns. Within each language block any duplicate words, and all stop words defined by us (eg. and, in, on, of which, the,) are removed automatically.

Note: Currently supported languages: German [de] English [en], French [fr] and Latin [la].
Other languages (Spanish, Italian, Portugese, Dutch, Swedish, Greek, Polish, Russian,....) possible.

For direct assignment of Latin animal and plant names the language marks [laAni] and [LaBot] may be used. This language marks are during importing in the database automatically assigned to the correct data fields and in addition precisely translated into all the other languages of the database.

IPTC captions without language marks can be subjected to automatic language recognition, these texts will then be automatically translated, but the original language is not stored in the database.
Currently supported languages for this feature: Dutch, Spanish.
Other languages (Italian, Portugese, Swedish, Greek, Polish, Russian ,....) possible.

4.3.2 Example for IPTC-Caption

| [De] Swiss Alps, Pers Glacier, Vardret Pers, Upper Engadin
| [S] [AUTOTRANSLATE] Swiss Alps Pers glacier Vardret pers Upper Engadine
| [Fr] [AUTOTRANSLATE] personnes Suisse Alpes glaciers, Vardret pers, Oberschrot Engadine

Note : The data field XMP/IPTC-Caption during export contains the XMP/IPTC-Headline, the complete description of the image from the database including all filling and stop words plus the data from IPTC-City and the categories of the image. With this information, a full text search easily can be done in the search engine.

4.3.3 Example for IPTC-City

| [De] Vitshumbi Eduardsee Democratic Republic of Congo Central Africa | [en] Vitshumbi Lake Edward Democratic Republic of Congo Central Africa Africa | [fr] Vitshumbi lac Édouard République démocratique du Congo Afrique Centrale Afrique

Note : The location XMP/IPTC City can also contain generic locations(eg., continent, country, region, ...)

4.3.4 Example for IPTC-Keywords

| [de] Menschen Säugetiere Elefanten | [en] people mammals elephants | [fr] hommes mammifère éléphants | [la] Loxodonta africana

Note: The XMP/IPTC keywords are generated automatically from the database when exporting data without fillers and stop words.

Keywords are displayed using a separator (eg. ;) because these data are stored in an array.

The pipe sign and the language markers are always generated together in one array element during the export. (eg.. | [de]; Menschen; Säugetiere; Elefanten; | [en]; people; mammals; elephants;)

During import the pipe sign is not necessary and is not evaluated.

4.3.5 Control marks for labeling

In all data fields (except in XMP/IPTC-SupplementalCategories – see item 7) additional control marks can be processed during import. These control marks can be used to relate a substring in an IPTC field to a certain data field in the database.

Based on the CatCodeList (see item 6) special language-/control marks can be used. The corresponding control mark (e.g. [laANI] or [laBOT]) is located at the beginning of the text. The sub string up to the next language mark or to the end of the IPTC field will be taken into the defined data field. So e.g. Latin animal or plant names can be taken to separate data fields automatically, if the control mark [laANI] or [laBOT] is found. For all languages appropriate control marks can be defined analogously, to get a direct relation of these data to the intended data fields of the database; this import technique allows the language dependend assignment to all data fields with the appropriate control marks.

Important: The control marks must be agreed together, please ask for possible control marks if needed.

At the moment the following control marks are supported:

[laANI] for animal name Latin

[laBOT] for plant name Latin

Note: The control marks must be defined and assigned to the appropriate data fields **before** importing data into the database.

5. Notes for usage

In the data field XMP/IPTC-Instructions all elements that are important for the exploitation of the image, such as LicenceModel, ModelRelease, surcharge, country or use restrictions and any other information (Terms and conditions, use only against fee, max. available size, etc.) is stored.

All data fields are separated by a semicolon and a carriage return and are only available if adequate data is stored.

The search engine must therefore extract this information from this data field in order to be aware to find possible existing supply constraints in certain countries, and (if known), the restrictions of use. Alternatively, in any case the showing of that information has to be assured.

5.1 Notes of usage (examples of possible entries)

[LicenceModel] RM;	= Rights managed
[LicenceModel] RF;	= Royalty-Free
[MinRoyalty] 60 EUR;	= 60 € minimal royalty (currency is encoded in ISO-4217)
[SurCharge] +100%;	= 100% Mark-up
[ModelRelease] MR;	= Model Release available
[ModelRelease] MRP;	= Model Release possible
[ModelRelease] NoMR;	= No Model Release possible
[PropertyRelease] PR;	= Property Release available
[PropertyRelease] PRP;	= Property Release possible
[PropertyRelease] NoPR;	= No Property Release possible
[Distribution] AgencyPic;	= Agency image
[OnlyUseInCountry] /DEU/AUT/;	= only use in the countries Germany and Austria
[NoUseInCountry] /GBR/CHE/;	= no use in the countries Great Britain, Switzerland (the data is encoded in ISO-3166 ALPHA- and begins and ends with / and is separated with /)

Note: The information in these blocks can only appear alternatively:

[OnlyUseFor] Books; Magazines;	= Use only in books or magazines
[OnlyUseFor] Books (01.01.2009 <-> 31.12.2009);	= Use only in books (with a time window from dd.mm.yyyy to dd.mm.yyyy)
[OnlyUseFor] Books (--> 31.12.2009);	= Use only in books (with a time window till dd.mm.yyyy)
[OnlyUseFor] Books (01.01.2010 -->);	= Use only in books (with a time window from dd.mm.yyyy)
[NoUseFor] Advertisements;	= no use in advertising (indefinitely)
[NoUseFor] Advertisements (-->31.12.2009);	= no use in advertising (with a time window till dd.mm.yyyy)
[NoUseFor] Advertisements (31.12.2009 -->);	= no use in advertising (with a time window from dd.mm.yyyy)

[OnlyUseFor] und [NoUseFor] exclude each other,
only one of both is possible.
Single entries in the notes of usage always end with ;
Multiple entries are separated with ; and end always with ;
eg. [UseFor] Magazines; Books (--> 31.12.2009); Presentation (31.12.2009 -->);

[NotFreeFor] fotofinder; picturemaxx;	= no WebgateTransfer to Fotofinder / Picturemaxx
[NotFreeFor] fotofinder (-->31.12.2009);	= no Webgate-Transfer to Fotofinder (with a time window till dd.mm.yyyy)
[NotFreeFor] picturemaxx (01.08. 2010 -->);	= no Webgate-Transfer to Picturemaxx (with a time window from dd.mm.yyyy)

Note : The blocks always end with , and are terminated by a carriage return. Within free text blocks carriage returns can occur, but each block of text always ends with ; and a carriage return.
The information in the usage restrictions are only in English.

6. Categories

Categories are used to map the image to specific topics. In the XMP/IPTC standard a primary category is provided, which can be saved with an ID by three characters, on the basis of an agreed CatCodeList. This CatCodeList is not set strict, but on the basis of a mature expandable list. There is only one primary category, but it can be any number of secondary categories (XMP/IPTC SupplementalCategories) entered.

The primary category of the image resulting from the following list:

CatCodeList

Code	Name	Code	Name
ABS	Abstract	HEF	Health and Fitness
ACT	Activity	HLC	Healthcare
AES	Aerial Shot	HOL	Holiday
AGR	Agriculture	IND	Industry
ANI	Animals	MIL	Military
ARC	Architecture	MUW	Music World
BAC	Backgrounds and Textures	NAT	Nature
BOT	Botanical	NTS	Night Shot
BZW	Business World	OCN	Ocean
CHI	Children	OFW	Office World
CON	Concepts	PEL	People and Lifestyles
CRE	Current Events	REL	Religion and Spirituality
CUL	Culture	RUL	Rural Life
DIA	Digital Arts	SCE	Scenery
DOC	Documentary	SCI	Science
ENT	Entertainment	SPO	Sports
ENV	Environment	STL	Still Life
ERO	Erotica and Nudes	TEC	Technology
FAS	Fashion	TRN	Transportation
FNA	Fine Art	TRA	Travel
FOD	Food	URL	Urban Life
GEN	General	UWS	Underwater Shot
GLM	Glamour	VIN	Vintage

The identifier for the primary category is stored in the data field XMP/IPTC Category. However, to assure the transmission of the clear text, the first entry in the data field (XMP/IPTC SupplementalCategories) is the corresponding clear text. Thus, it can hereby assign identification and clear text of the primary category. We reserve the right to extend the current CatCodeList, an automatic adjustment of the data from the data field XMP/IPTC SupplementalCategories with the actual existing list in the search engine is therefore recommended. While extending the CatCodeList you should be careful not to invent sub-categories, eg. ANI – animals and BIR – birds etc.

7. Additional (secondary) categories

Under the plain language of the primary category in the data field XMP/IPTC SupplementalCategories additional entries of other categories are possible. These are alternative words from the current CatCodeList, with only the clear text, but not the ID is entered.

A language mark [en] is not possible because of incompatibility with Adobe Photoshop, because square brackets in the data field XMP/IPTC SupplementalCategories are not allowed. It is therefore agreed to establish this data field, that here all the information is stored in English. Therefore it may require that the search engine considers appropriate translations available, or offers to find categories with the English text.

Example:

IPTC-Category:

DOC

IPTC-SupplementalCategories :

Documentary; Entertainment; Glamour;

These lists will be expanded and should therefore be updated automatically during data import.

Note: The display of XMP/IPTC SupplementalCategories done in most programs with a separator, as these data are stored internally as an array.

8. Classifications

Classifications are mappings of the image due to technical data, while categories are showing assignments to the thematic content of the image. As for these two assignments in the XMP/IPTC no separate data fields are present, the classifications are also saved in the data field XMP/IPTC-SupplementalCategories. To allow a distinction between classifications and categories, each parameter of the classifications is connected with the = sign. Square brackets for technical reasons (eg incompatibility with Adobe Photoshop) here are not possible.

Classifications are unique technical data, such as Color / black and white, portrait / landscape orientation, aspect ratio, etc. This information can be present only once in one of the possible classes or be completely absent also.

The search engine must therefore extract this information from this data field, if necessary, to provide a search with classifications.

All this information will only be transported in the English language, therefore it is necessary that the search engine has the appropriate translations, or offers to find classes with the English text

8.1 Classifications (Details)

The following classes are also stored in the data field XMP/IPTC SupplementalCategories:

Digitalisation = scan	= Scanner produced by digital image
Digitalisation = Camera	= Digital image from camera
Digitalisation = Computer	= Digital image from your computer
Digitalisation = No	= analog footage
ObjectType = Photo	= Photo
ObjectType = Vector	= Vector graphics for computer use
ObjectType = Video	= Film, Video, CD, DVD, BlueRay, ...
ObjectType = Text	= text content
ObjectType = Presentation	= Presentation slides
ObjectType = DataTransfer	= Hard disk, data transmission, other media
EditType = Composing	= Photomontage, photo alienation
EditType = CutOut	= Motif exempted
EditType = SingleShot	= Single photo
EditType = SeriesShot	= Photo series
EditType = Illustration	= Illustration
EditType = Movie	= Film, Video
ColorType = Color	= in Color
ColorType = Color48Bit	= in Color with 48Bit color resolution
ColorType = BW	= Black/White
ColorSpace = RGB	= RGB color space
ColorSpace = CMYK	= CMYK color space
Orientation = Landscape	= Landscape
Orientation = Portrait	= Portrait
Orientation = Landscape panoramic	= Landscape Panorama (quotient ratio > 2)
Orientation = Portrait panoramic	= Panorama portrait (quotient ratio > 2)
Orientation = Square	= Square (ratio = 1:1)
Ratio = 4:3	= Aspect Ratio 4:3
Ratio = 16:9	= Aspect Ratio 16:9
Ratio = X:X	= arbitrary aspect ratio indication (for example 15:4)
MaxPixel = 27Mpix (6400x4267)	= max. available amount of pixels, rounded to MegaPixel
Size300dpi = DIN A3	= Size at 300dpi

Note: The display of XMP/IPTC SupplementalCategories done in most programs with a separator, as these data are stored internally as an array.

9. Data-Export with additional files

9.1 Import with EXCEL file

Additional metadata can be delivered with an EXCEL file. Any column name can be used, but there should be at least one column which allows a clear assignment to the image file. The relevant columns from the Excel file you want to include in the database, will be converted during data import with normalized column names. The delivery of different languages in separate columns within an EXCEL table is possible

If there are columns with different languages, these columns are converted when importing data into the corresponding standard columns with the correct language.

All relevant columns from the Excel file you want to include in the database, be provided during data import with normalized column names.

The EXCEL data may also contain additional information that is not present in the IPTC header of the corresponding image file. Overlays of the information is no problem. This information supplements during the image import the information in the IPTC header, however, is always stored in addition to the database. In addition, the original Excel files are archived separately.

9.2 Export with EXCEL file

Optional with each Export, in addition to the image files in the different resolutions, you can get an EXCEL file containing all XMP/IPTC data in separate columns.

According to the existing XMP/IPTC data several columns are generated automatically:

PictureNr
Title
Headline_xx
Caption_xx
CaptionWriter
EditStatus_xx
CreationDate
City_xx
Instructions
CopyrightNotice
LicenceModel
SurCharge
ModelRelease
PropertyRelease
Distribution
Usage
OwnerUrl
Author
Credit
Source
TransmissionReference
Category
SupplementalCategories
Classifications
Keywords_xx

All the title rows have a coloured background, a filter function and are frozen on scrolling to ensure a well-structured view.

Column titles ending with _xx, can appear multiple times with different language marks eg. Headline_de, Headline_en, Headline_fr, ...

These titles can also be expanded with the appendix _AUTOTRANSLATE, if the texts have been translated automatically and are not yet manually edited, eg. Headline_de_AUTOTRANSLATE, Headline_en, Headline_fr_AUTOTRANSLATE, ...

This data structure gives you extended possibilities of importing data into the target system.

9.3 Export with IPTC text files

Together with each image file an additional text file (named pictureNr_IPTC.txt) can be delivered. These text files will be located in the folder ...\\LOW\\... and contain three tabulator separated columns. In the first column you find the name of the XMP/IPTC data field in English language, in the second column you have the XMP/IPTC data field name in German, in the third column you find the contained data with corresponding language marks.

The following XMP/IPTC data fields can be found in the IPTC text file:

PictureNr
Title
Headline
Caption
CaptionWriter
EditStatus
CreationDate
City
Instructions
CopyrightNotice
LicenceModel
SurCharge
ModelRelease
PropertyRelease
Distribution
Usage
OwnerUrl
Author
Credit
Source
TransmissionReference
Category
SupplementalCategories
Classifications
Keywords

In case of the keywords, the language marks are generated in a separate line and are valid until a new language mark occurs or the paragraph is finished.

The text file can also be extended with EXIF data if these are available in the image file.

**For any questions, comments or suggestions for improvement
please contact the INFORDATA team.**

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10. Annex

10.1 List ISO-3166 ALPHA-3

ISO-3	Countryname_GER	Countryname_ENG	Countryname_FRE
ABW	ARUBA	ARUBA	ARUBA
AFG	AFGHANISTAN	AFGHANISTAN	AFGHANISTAN
AGO	ANGOLA	ANGOLA	ANGOLA
AIA	ANGUILLA	ANGUILLA	ANGUILLA
ALB	ALBANIEN	ALBANIA	ALBANIE
AND	ANDORRA	ANDORRA	ANDORRE
ANT	NIEDERLÄNDISCHE ANTILLEN	NETHERLANDS ANTILLES	ANTILLES NÉERLANDAISES
ARE	VEREINIGTE ARABISCHE EMIRATE	UNITED ARAB EMIRATES	ÉMIRATS ARABES UNIS
ARG	ARGENTINIEN	ARGENTINA	ARGENTINE
ARM	ARMENIEN	ARMENIA	ARMÉNIE
ASC	ASCENSION	ASCENSION	ASCENSION
ASM	AMERIKANISCH-SAMOA	AMERICAN SAMOA	SAMOA AMÉRICAINES
ATA	ANTARKTIS	ANTARCTICA	ANTARCTIQUE
ATF	SÜDPOLAR- UND ANTARKTISCHE TERRITORIEN	FRENCH SOUTHERN AND ANTARCTIC LANDS	TERRES AUSTRALES ET ANTARCTIQUES FRANÇAISES
ATG	ANTIGUA UND BARBUDA	ANTIGUA AND BARBUDA	ANTIGUA-ET-BARBUDA
AUS	AUSTRALIEN	AUSTRALIA	AUSTRALIE
AUT	ÖSTERREICH	AUSTRIA	AUTRICHE
AZE	ASERBAIDSCHAN	AZERBAIJAN	AZERBAÏDJAN
BDI	BURUNDI	BURUNDI	BURUNDI
BEL	BELGIEN	BELGIUM	BELGIQUE
BEN	BENIN	BENIN	BÉNIN
BFA	BURKINA FASO	BURKINA FASO	BURKINA FASO
BGD	BANGLADESCH	BANGLADESH	BANGLADESH
BGR	BULGARIEN	BULGARIA	BULGARIE
BHR	BAHRAIN	BAHRAIN	BAHRÉÏN
BHS	BAHAMAS	BAHAMAS	BAHAMAS
BIH	BOSNIEN-HERZEGOWINA	BOSNIA AND HERZEGOVINA	BOSNIE-HERZÉGOVINE
BLR	WEISSRUSSLAND	BELARUS	BÉLARUS
BLZ	BELIZE	BELIZE	BELIZE
BMU	BERMUDA	BERMUDA	BERMUDES
BOL	BOLIVIEN	BOLIVIA	BOLIVIE
BRA	BRASILIEN	BRAZIL	BRÉSIL
BRB	BARBADOS	BARBADOS	BARBADE
BRN	BRUNEI DARUSSALAM	BRUNEI DARUSSALAM	BRUNÉI DARUSSALAM
BTN	BHUTAN	BHUTAN	BHOUTAN
BVT	BOUVET-INSEL	BOUVET ISLAND	BOUVET, ÎLE
BWA	BOTSWANA	BOTSWANA	BOTSWANA
CAF	ZENTRALAFRIKANISCHE REPUBLIK	CENTRAL AFRICAN REPUBLIC	CENTRAFRICAINE, RÉPUBLIQUE
CAN	KANADA	CANADA	CANADA
CCK	KOKOSINSELN	COCOS (KEELING) ISLANDS	COCOS (KEELING), ÎLES
CHE	SCHWEIZ	SWITZERLAND	SUISSE
CHL	CHILE	CHILE	CHILI
CHN	VOLKSREPUBLIK CHINA	CHINA	CHINE
CIV	ELFENBEINKÜSTE	COTE D'IVOIRE	CÔTE D'IVOIRE
CMR	KAMERUN	CAMEROON	CAMEROUN
COG	KONGO	CONGO	CONGO
COK	COOK-INSELN	COOK ISLANDS	COOK, ÎLES
COL	KOLUMBIEN	COLOMBIA	COLOMBIE

ISO-3	Countryname_GER	Countryname_ENG	Countryname_FRE
COM	KOMOREN	COMOROS	COMORES
CPV	KAP VERDE	CAPE VERDE	CAP-VERT
CRI	COSTA RICA	COSTA RICA	COSTA RICA
CUB	KUBA	CUBA	CUBA
CXR	WEIHNACHTSINSEL	CHRISTMAS ISLAND	CHRISTMAS, ÎLE
CYM	KAIMANINSELN	CAYMAN ISLANDS	CAÏMANES, ÎLES
CYP	ZYPERN	CYPRUS	CHYPRE
CZE	TSCHECHIEN	CZECH REPUBLIC	TCHÈQUE, RÉPUBLIQUE
DEU	DEUTSCHLAND	GERMANY	ALLEMAGNE
DGA	DIEGO GARCIA	DIEGO GARCIA	DIEGO GARCIA
DJI	DJIBOUTI	DJIBOUTI	DJIBOUTI
DMA	DOMINICA	DOMINICA	DOMINIQUE
DNK	DÄNEMARK	DENMARK	DANEMARK
DOM	DOMINIKANISCHE REPUBLIK	DOMINICAN REPUBLIC	DOMINICAINE, RÉPUBLIQUE
DZA	ALGERIEN	ALGERIA	ALGÉRIE
ECU	ECUADOR	ECUADOR	ÉQUATEUR
EGY	ÄGYPTEN	EGYPT	ÉGYPTE
ERI	ERITREA	ERITREA	ÉRYTHRÉE
ESH	SAHARA ARABISCHE DEMOKRATISCHE REPUBLIK	WESTERN SAHARA	SAHARA OCCIDENTAL
ESP	SPANIEN	SPAIN	ESPAGNE
EST	ESTLAND	ESTONIA	ESTONIE
ETH	ÄTHIOPIEN	ETHIOPIA	ÉTHIOPIE
FIN	FINNLAND	FINLAND	FINLANDE
FJI	FIDSCHI	FIJI	FIDJI
FLK	FALKLANDINSELN	FALKLAND ISLANDS (MALVINAS)	FALKLAND, ÎLES (MALVINAS)
FRA	FRANKREICH	FRANCE	FRANCE
FRO	FÄRÖER	FAROE ISLANDS	FÉROÉ, ÎLES
FSM	FÖRDERIERTE STAATEN VON MIKRONESIEN	MICRONESIA, FEDERATED STATES OF	MICRONÉSIE, ÉTATS FÉDÉRÉS DE
GAB	GABUN	GABON	GABON
GBR	GROSSBRITANNIEN	UNITED KINGDOM	ROYAUME-UNI
GEO	GEORGIEN	GEORGIA	GÉORGIE
GHA	GHANA	GHANA	GHANA
GIB	GIBRALTAR	GIBRALTAR	GIBRALTAR
GIN	GUINEA	GUINEA	GUINÉE
GLP	GADELOUPE	GADELOUPE	GADELOUPE
GMB	GAMBIA	GAMBIA	GAMBIE
GNB	GUINEA-BISSAU	GUINEA-BISSAU	GUINÉE-BISSAU
GNQ	ÄQUATORIALGUINEA	EQUATORIAL GUINEA	GUINÉE ÉQUATORIALE
GRC	GRIECHENLAND	GREECE	GRÈCE
GRD	GRENADA	GRENADA	GRENADE
GRL	GRÖNLAND	GREENLAND	GROENLAND
GTM	GUATEMALA	GUATEMALA	GUATEMALA
GUF	FRANZÖSISCH GUYANA	FRENCH GUIANA	GUYANE FRANÇAISE
GUM	GUAM	GUAM	GUAM
GUY	GUYANA	GUYANA	GUYANA
HKG	HONGKONG	HONG KONG	HONG-KONG
HMD	HEAD- UND McDONALD-INSELN	HEARD AND MC DONALD ISLANDS	HEARD, ÎLE ET MCDONALD, ÎLES
HND	HONDURAS	HONDURAS	HONDURAS
HRV	KROATIEN	CROATIA (local name: Hrvatska)	CROATIE
HTI	HAITI	HAITI	HAÏTI
HUN	UNGARN	HUNGARY	HONGRIE
IDN	INDONESIEN	INDONESIA	INDONÉSIE
IND	INDIEN	INDIA	INDE

ISO-3	Countryname_GER	Countryname_ENG	Countryname_FRE
IOT	BRITISCHES TERRITORIUM IM INDISCHEN OZEAN	BRITISH INDIAN OCEAN TERRITORY	Océan Indien, Territoire Britannique de L'
IRL	IRLAND	IRELAND	IRLANDE
IRN	IRAN	IRAN (ISLAMIC REPUBLIC OF)	IRAN, République Islamique d'
IRQ	IRAK	IRAQ	IRAQ
ISL	ISLAND	ICELAND	ISLANDE
ISR	ISRAEL	ISRAEL	ISRAËL
ITA	ITALIEN	ITALY	ITALIE
JAM	JAMAICA	JAMAICA	JAMAÏQUE
JOR	JORDANIEN	JORDAN	JORDANIE
JPN	JAPAN	JAPAN	JAPON
KAZ	KASACHSTAN	KAZAKHSTAN	KAZAKHSTAN
KEN	KENIA	KENYA	KENYA
KGZ	KIRGISIEN	KYRGYZSTAN	KIRGHIZISTAN
KHM	KAMBODSCHA	CAMBODIA	CAMBODGE
KIR	KIRIBATI	KIRIBATI	KIRIBATI
KNA	ST. KITTS UND NEVIS	SAINT KITTS AND NEVIS	SAINT-KITTS-ET-NEVIS
KOR	SÜDKOREA	KOREA, REPUBLIC OF	CORÉE, République de
KWT	KUWEIT	KUWAIT	KOWEÏT
LAO	LAOS	LAO PEOPLE'S DEMOCRATIC REPUBLIC	LAO, République Démocratique Populaire
LAT	LATEIN		
LBN	LIBANON	LEBANON	LIBAN
LBR	LIBERIA	LIBERIA	LIBÉRIA
LBY	LIBYEN	LIBYAN ARAB JAMAHIRIYA	LIBYENNE, JAMAHIRIYA ARABE
LCA	ST. LUCIA	SAINT LUCIA	SAINTE-LUCIE
LIE	LIECHTENSTEIN	LIECHTENSTEIN	LIECHTENSTEIN
LKA	SRI LANKA	SRI LANKA	SRI LANKA
LSO	LESOTHO	LESOTHO	LESOTHO
LTU	LITAUEN	LITHUANIA	LITUANIE
LUX	LUXEMBURG	LUXEMBOURG	LUXEMBOURG
LVA	LETTLAND	LATVIA	LETTONIE
MAC	MACAU	MACAU	MACAO
MAR	MAROKKO	MOROCCO	MAROC
MCO	MONACO	MONACO	MONACO
MDA	MOLDAVIEN	MOLDOVA, REPUBLIC OF	MOLDOVA, République de
MDG	MADAGASKAR	MADAGASCAR	MADAGASCAR
MDV	MALEDIVEN	MALDIVES	MALDIVES
MEX	MEXIKO	MEXICO	MEXIQUE
MHL	MARSHALLINSELN	MARSHALL ISLANDS	MARSHALL, ÎLES
MKD	MAZEDONIEN	MACEDONIA, THE FORMER YUGOSLAV REPUBLIC OF	MACÉDOINE, L'EX-RÉPUBLIQUE YOUGOSLAVE DE
MLI	MALI	MALI	MALI
MLT	MALTA	MALTA	MALTE
MMR	MYANMAR (BURMA)	MYANMAR (BURMA)	BURMA
MNG	MONGOLEI	MONGOLIA	MONGOLIE
MNP	NÖRDLICHE MARIANEN	NORTHERN MARIANA ISLANDS	MARIANNES DU NORD, ÎLES
MOZ	MOSAMBIK	MOZAMBIQUE	MOZAMBIQUE
MRT	MAURETANIEN	MAURITANIA	MAURITANIE
MSR	MONTSERRAT	MONTSERRAT	MONTSERRAT
MTQ	MARTINIQUE	MARTINIQUE	MARTINIQUE
MUS	MAURITIUS	MAURITIUS	MAURICE
MWI	MALAWI	MALAWI	MALAWI
MYS	MALAYSIA	MALAYSIA	MALAISIE
MYT	MAYOTTE	MAYOTTE	MAYOTTE

ISO-3	Countryname_GER	Countryname_ENG	Countryname_FRE
NAM	NAMIBIA	NAMIBIA	NAMIBIE
NCL	NEUKALEDONIEN	NEW CALEDONIA	NOUVELLE-CALÉDONIE
NER	NIGER	NIGER	NIGER
NFK	NORFOLKINSEL	NORFOLK ISLAND	NORFOLK, ÎLE
NGA	NIGERIA	NIGERIA	NIGÉRIA
NIC	NICARAGUA	NICARAGUA	NICARAGUA
NIU	NIUE	NIUE	NIUÉ
NLD	NIEDERLANDE	NETHERLANDS	PAYS-BAS
NOR	NORWEGEN	NORWAY	NORVÈGE
NPL	NEPAL	NEPAL	NÉPAL
NRU	NAURU	NAURU	NAURU
NZL	NEUSEELAND	NEW ZEALAND	NOUVELLE-ZÉLANDE
OMN	OMAN	OMAN	OMAN
PAK	PAKISTAN	PAKISTAN	PAKISTAN
PAN	PANAMA	PANAMA	PANAMA
PCN	PITCAIRN	PITCAIRN ISLANDS	PITCAIRN
PER	PERU	PERU	PÉROU
PHL	PHILIPPINEN	PHILIPPINES	PHILIPPINES
PLW	PALAU	PALAU	PALAU
PNG	PAPUA-NEUGUINEA	PAPUA NEW GUINEA	PAPOUASIE-NOUVELLE-GUINÉE
POL	POLEN	POLAND	POLOGNE
PRI	PUERTO RICO	PUERTO RICO	PORTO RICO
PRK	NORDKOREA	KOREA, DEMOCRATIC PEOPLE'S REPUBLIC OF	CORÉE, RÉPUBLIQUE POPULAIRE DÉMOCRATIQUE DE
PRT	PORTUGAL	PORTUGAL	PORTUGAL
PRY	PARAGUAY	PARAGUAY	PARAGUAY
PYF	FRANZÖSISCH-POLYNESIEN	FRENCH POLYNESIA	POLYNÉSIE FRANÇAISE
QAT	KATAR	QATAR	QATAR
REU	REUNION	REUNION	RÉUNION
ROM	RUMÄNIEN	ROMANIA	ROUMANIE
RUS	RUSSISCHE FÖDERATION	RUSSIAN FEDERATION	RUSSIE, FÉDÉRATION DE
RWA	RUANDA	RWANDA	RWANDA
SAU	SAUDI ARABIEN	SAUDI ARABIA	ARABIE SAOUDITE
SDN	SUDAN	SUDAN	SOUDAN
SEN	SENEGAL	SENEGAL	SÉNÉGAL
SGP	SINGAPUR	SINGAPORE	SINGAPOUR
SGS	SÜDGEORGIEN UND DIE SÜD- SANDWICH-INSELN	SOUTH GEORGIA AND THE SOUTH SANDWICH ISLANDS	GÉORGIE DU SUD ET LES ÎLES SANDWICH DU SUD
SHN	ST. HELENA	SAINT HELENA	SAINTE-HÉLÈNE
SJM	SPITZBERGEN UND JAN MAYEN	SVALBARD AND JAN MAYEN ISLANDS	SVALBARD ET ÎLE JAN MAYEN
SLB	SALOMONEN	SOLOMON ISLANDS	SALOMON, ÎLES
SLE	SIERRA LEONE	SIERRA LEONE	SIERRA LEONE
SLV	EL SALVADOR	EL SALVADOR	EL SALVADOR
SMR	SAN MARINO	SAN MARINO	SAINT-MARIN
SOM	SOMALIA	SOMALIA	SOMALIE
SPM	ST. PIERRE UND MIQUELON	SAINT PIERRE AND MIQUELON	SAINT-PIERRE-ET-MIQUELON
STP	SÃO TOMÉ UND PRINCIPE	SÃO TOME AND PRINCIPE	SÃO TOMÉ-ET-PRINCIPE
SUR	SURINAM	SURINAME	SURINAME
SVK	SLOWAKISCHE REPUBLIK	SLOVAKIA (Slovak Republic)	SLOVAQUIE
SVN	SLOWENIEN	SLOVENIA	SLOVÉNIE
SWE	SCHWEDEN	SWEDEN	SUÈDE
SWZ	SWASILAND	SWAZILAND	SWAZILAND
SYC	SEYCHELLEN	SEYCHELLES	SEYCHELLES
SYR	SYRIEN	SYRIAN ARAB REPUBLIC	SYRIENNE, RÉPUBLIQUE ARABE
TCA	TURKS- UND CAICOS-INSELN	TURKS AND CAICOS ISLANDS	TURKS ET CAÏQUES, ÎLES

ISO-3	Countryname_GER	Countryname_ENG	Countryname_FRE
TCD	TSCHAD	CHAD	TCHAD
TGO	TOGO	TOGO	TOGO
THA	THAILAND	THAILAND	THAÏLANDE
TJK	TADSCHIKISTAN	TAJIKISTAN	TADJIKISTAN
TKL	TOKELAU	TOKELAU	TOKELAU
TKM	TURKMENISTAN	TURKMENISTAN	TURKMÉNISTAN
TLS	OST-TIMOR	EAST TIMOR	
TON	TONGA	TONGA	TONGA
TTO	TRINIDAD U. TOBAGO	TRINIDAD AND TOBAGO	TRINITÉ-ET-TOBAGO
TUN	TUNESIEN	TUNISIA	TUNISIE
TUR	TÜRKEI	TURKEY	TURQUIE
TUV	TUVALU	TUVALU	TUVALU
TWN	TAIWAN	TAIWAN	TAÏWAN, PROVINCE DE CHINE
TZA	TANSANIA	TANZANIA, UNITED REPUBLIC OF	TANZANIE, RÉPUBLIQUE-UNIE DE
UGA	UGANDA	UGANDA	OUGANDA
UKR	UKRAINE	UKRAINE	UKRAINE
URY	URUGUAY	URUGUAY	URUGUAY
USA	VEREINIGTE STAATEN VON AMERIKA	UNITED STATES	ÉTATS-UNIS
UZB	USBEKISTAN	UZBEKISTAN	OUZBÉKISTAN
VAT	VATIKANSTADT	VATICAN CITY STATE (HOLY SEE)	SAINT-SIÈGE (ÉTAT DE LA CITÉ DU VATICAN)
VCT	ST. VINCENT UND DIE GRENADINEN	SAINT VINCENT AND THE GRENADINES	SAINT-VINCENT-ET-LES GRENADINES
VEN	VENEZUELA	VENEZUELA	VENEZUELA
VGB	BRITISCHE JUNGFERINSELN	VIRGIN ISLANDS (BRITISH)	ÎLES VIERGES BRITANNIQUES
VIR	AMERIKANISCHE JUNGFERINSELN	VIRGIN ISLANDS (U.S.)	ÎLES VIERGES DES ÉTATS-UNIS
VNM	VIETNAM	VIETNAM	VIETNAM
VUT	VANUATU	VANUATU	VANUATU
WLF	WALLIS UND FUTUNA	WALLIS AND FUTUNA ISLANDS	WALLIS ET FUTUNA
WSM	SAMOA	SAMOA	SAMOA
YEM	JEMEN	YEMEN	YÉMEN
YUG	SERBIEN UND MONTENEGRO	SERBIA AND MONTENEGRO	
ZAF	SÜDAFRIKA	SOUTH AFRICA	AFRIQUE DU SUD
ZAR	KONGO, DEMOKRATISCHE REPUBLIK	CONGO, DEMOCRATIC REPUBLIC OF THE	
ZMB	SAMBIA	ZAMBIA	ZAMBIE
ZWE	SIMBABWE	ZIMBABWE	ZIMBABWE

10.2 List ISO-639-2

ISO639-2	Language_GER	Language_ENG	Language_FRE
aa	Danakil-Sprache	Afar	afar
ab	Abchasisch	Abkhazian	abkhaze
ae	Avestisch	Avestan	avestique
af	Afrikaans	Afrikaans	afrikaans
ak	Volta-Comoe-Sprachen	Akan	akan
am	Amharisch	Amharic	amharique
an	aragonesische Sprache	Aragonese	aragonais
ar	Arabisch	Arabic	arabe
as	Assamesisch	Assamese	assamais
av	Awarisch	Avaric	avar
ay	Aymara-Sprache	Aymara	aymara
az	Aserbaidshanisch	Azerbaijani	azéri
ba	Baschkirisch	Bashkir	bachkir
be	Weißrussisch	Belarusian	biélorusse
bg	Bulgarisch	Bulgarian	bulgare
bh	Bihari	Bihari	bihari
bi	Beach-la-mar	Bislama	bichlamar
bm	Bambara-Sprache	Bambara	bambara
bn	Bengali	Bengali	bengali
bo	Tibetisch	Tibetan	tibétain
br	Bretonisch	Breton	breton
bs	Bosnisch	Bosnian	bosniaque
ca	Katalanisch	Valencian; Catalan	valencien; catalan
ca	Katalanisch	Catalan; Valencian	catalan; valencien
ce	Tschetschenisch	Chechen	tchéchéne
ch	Chamorro-Sprache	Chamorro	chamorro
co	Korsisch	Corsican	corse
cr	Cree-Sprache	Cree	cree
cs	Tschechisch	Czech	tchèque
cu	Kirchenslawisch	Church Slavic; Old Slavonic; Church Slavonic; Old Bulgarian; Old Church Slavonic	slavon d'église; vieux slave; slavon liturgique; vieux bulgare
cv	Tschuwaschisch	Chuvash	tchouvache
cy	Walisisch; Kymrisch; Cymraeg	Welsh	gallois
da	Dänisch	Danish	danois
de	Deutsch	German	allemand
dv	Maledivisch	Divehi	maldivien
dz	Dzongkha	Dzongkha	dzongkha
ee	Ewe-Sprache	Ewe	éwé
el	Neugriechisch (nach 1453)	Greek, Modern (after 1453)	grec moderne (après 1453)
en	Englisch	English	anglais
eo	Esperanto	Esperanto	espéranto
es	Spanisch	Spanish; Castilian	espagnol; castillan
et	Estnisch	Estonian	estonien
eu	Baskisch	Basque	basque
fa	Persisch	Persian	persan
ff	Ful	Fulah	peul
fi	Finnisch	Finnish	finnois
fj	Fidschi-Sprache	Fijian	fidjien
fo	Färöisch	Faroese	féroïen
fr	Französisch	French	français
fy	Friesisch	Frisian	frison

ISO639-2	Language_GER	Language_ENG	Language_FRE
ga	Irisch	Irish	irlandais
gd	Gälisch-Schottisch	Scottish Gaelic; Gaelic	gaélique écossais; gaélique
gd	Gälisch-Schottisch	Gaelic; Scottish Gaelic	gaélique; gaélique écossais
gl	Galicisch	Gallegan	galicien
gn	Guaraní-Sprache	Guarani	guarani
gu	Gujarati	Gujarati	goudjrati
gv	Manx	Manx	manx; mannois
ha	Hausa-Sprache	Hausa	haoussa
he	Hebräisch	Hebrew	hébreu
hi	Hindi	Hindi	hindi
ho	Hiri-Motu	Hiri Motu	hiri motu
hr	Kroatisch	Croatian	croate
ht	Haitianisch	Haitian; Haitian Creole	haïtien; créole haïtien
hu	Ungarisch	Hungarian	hongrois
hy	Armenisch	Armenian	arménien
hz	Herero-Sprache	Herero	herero
ia	Interlingua (IALA)	Interlingua (International Auxiliary Language Association)	interlingua (langue auxiliaire internationale)
id	Bahasa Indonesia	Indonesian	indonésien
ie	Interlingue	Interlingue	interlingue
ig	Ibo-Sprache	Igbo	igbo
ii	Yi-Sprache Sichuan	Sichuan Yi	yi de Sichuan
ik	Inupiaq	Inupiaq	inupiaq
io	Esperanto (Ido)	Esperanto (Ido)	Esperanto (Ido)
is	Isländisch	Icelandic	islandais
it	Italienisch	Italian	italien
iu	Inuktitut	Inuktitut	inuktitut
ja	Japanisch	Japanese	japonais
jv	Javanisch	Javanese	javanais
ka	Georgisch	Georgian	géorgien
kg	Kongo	Kongo	kongo
ki	Kikuyu-Sprache	Kikuyu; Gikuyu	kikuyu
kj	Kwanyama	Kwanyama; Kuanyama	kwanyama; kuanyama
kj	Kwanyama	Kuanyama; Kwanyama	kuanyama; kwanyama
kk	Kasachisch	Kazakh	kazakh
kl	Grönländisch	Kalaallisut; Greenlandic	groenlandais
km	Kambodschanisch	Khmer	khmer
kn	Kannada	Kannada	kannada
ko	Koreanisch	Korean	coréen
kr	Kanuri-Sprache	Kanuri	kanouri
ks	Kaschmiri	Kashmiri	kashmiri
ku	Kurdisch	Kurdish	kurde
kv	Komi-Sprachen	Komi	komi
kw	Kornisch	Cornish	cornique
ky	Kirgisisch	Kirghiz	kirghize
la	Latein	Latin	latin
lb	Luxemburgisch	Luxembourgish; Letzeburgesch	luxembourgeois
lg	Ganda-Sprache	Ganda	ganda
li	Limburgisch	Limburgan; Limburger; Limburgish	limbourgeois
ln	Lingala	Lingala	lingala
lo	Laotisch	Lao	lao
lt	Litauisch	Lithuanian	lituanien
lu	Luba-Sprache	Luba-Katanga	luba-katanga
lv	Lettisch	Latvian	letton

ISO639-2	Language_GER	Language_ENG	Language_FRE
mg	madagassische Sprache	Malagasy	malgache
mh	Marschallesisch	Marshallese	marshall
mi	Maori-Sprache	Maori	maori
mk	Makedonisch	Macedonian	macédonien
ml	Malayalam	Malayalam	malayalam
mn	Mongolisch	Mongolian	mongol
mo	Moldauisch	Moldavian	moldave
mr	Marathi	Marathi	marathe
ms	Malaiisch	Malay	malais
mt	Maltesisch	Maltese	maltais
my	Birmanisch	Burmese	birman
na	Nauruanisch	Nauru	nauruan
nb	Norwegisch Bokmål	Norwegian Bokmål; Bokmål, Norwegian	norvégien bokmål; bokmål, norvégien
nd	Ndebele-Sprache (Nord)	Ndebele, North; North Ndebele	ndébélé du Nord
ne	Nepali	Nepali	népalais
ng	Ndonga	Ndonga	ndonga
nl	Niederländisch; Flämisch	Dutch; Flemish	néerlandais; flamand
nn	Nynorsk (Neu-Norwegisch)	Nynorsk, Norwegian; Norwegian Nynorsk	nynorsk, norvégien; norvégien nynorsk
no	Norwegisch	Norwegian	norvégien
nr	Ndebele-Sprache (Süd)	Ndebele, South; South Ndebele	ndébélé du Sud
nv	Navajo-Sprache	Navajo; Navaho	navaho
ny	Nyanja-Sprache	Nyanja; Chichewa; Chewa	nyanja; chichewa; chewa
oc	Okzitanisch (nach 1500)	Occitan (post 1500); Provençal	occitan (après 1500); provençal
oj	Ojibwa-Sprache	Ojibwa	ojibwa
om	Galla-Sprache	Oromo	galla
or	Oriya-Sprache	Oriya	oriya
os	Ossetisch	Ossetic; Ossetian	ossète
pa	Pandschabi-Sprache	Panjabi; Punjabi	pendjabi
pi	Pali	Pali	pali
pl	Polnisch	Polish	polonais
ps	Paschtu	Pushto	pachto
pt	Portugiesisch	Portuguese	portugais
qu	Quechua-Sprache	Quechua	quechua
rm	Rätoromanisch	Raeto-Romance	rhéto-roman
rn	Rundi-Sprache	Rundi	rundi
ro	Rumänisch	Romanian	roumain
ru	Russisch	Russian	russe
rw	Rwanda-Sprache	Kinyarwanda	rwanda
sa	Sanskrit	Sanskrit	sanskrit
sc	Sardisch	Sardinian	sarde
sd	Sindhi-Sprache	Sindhi	sindhi
se	Nordsamisch	Northern Sami	sami du Nord
sg	Sango-Sprache	Sango	sango
si	Singhalesisch	Sinhalese; Sinhala	singhalais
sk	Slowakisch	Slovak	slovaque
sl	Slowenisch	Slovenian	slovène
sm	Samoanisch	Samoan	samoan
sn	Schona-Sprache	Shona	shona
so	Somali	Somali	somali
sq	Albanisch	Albanian	albanais
sr	Serbisch	Serbian	serbe
ss	Swazi	Swati	swati
st	Sotho-Sprache (Süd)	Sotho, Southern	sotho du Sud

ISO639-2	Language_GER	Language_ENG	Language_FRE
su	Sundanesisch	Sundanese	soundanais
sv	Schwedisch	Swedish	suédois
sw	Swahili	Swahili	swahili
ta	Tamil	Tamil	tamoul
te	Telugu-Sprache	Telugu	télougou
tg	Tadschikisch	Tajik	tadjik
th	Thailändisch	Thai	thaï
ti	Tigrinja-Sprache	Tigrinya	tigrigna
tk	Turkmenisch	Turkmen	turkmène
tl	Tagalog	Tagalog	tagalog
tn	Tswana-Sprache	Tswana	tswana
to	Tongaisch (Tonga-Inseln)	Tonga (Tonga Islands)	tongan (Îles Tonga)
tr	Türkisch	Turkish	turc
ts	Tsonga-Sprache	Tsonga	tsonga
tt	Tatarisch	Tatar	tatar
tw	Akan-Sprache	Twi	twi
ty	Tahitisch	Tahitian	tahitien
ug	Uigurisch	Uighur; Uyghur	ouïgour
uk	Ukrainisch	Ukrainian	ukrainien
ur	Urdu	Urdu	ourdou
uz	Usbekisch	Uzbek	ouszbek
ve	Venda-Sprache	Venda	venda
vi	Vietnamesisch	Vietnamese	vietnamien
vo	Volapük	Volapük	volapük
wa	Wallonisch	Walloon	wallon
wo	Wolof-Sprache	Wolof	wolof
xh	Xhosa-Sprache	Xhosa	xhosa
yi	Jiddisch	Yiddish	yiddish
yo	Yoruba-Sprache	Yoruba	yoruba
za	Zhuang	Chuang; Zhuang	chuang; zhuang
zh	Chinesisch	Chinese	chinois
zu	Zulu (isiZulu)	Zulu	zoulou

10.3 List ISO-4217

ISO-4217	Contryname	Currencyname
AED	United Arab Emirates	Dirhams
AFN	Afghanistan	Afghanis
ALL	Albania	Leke
AMD	Armenia	Drams
ANG	Netherlands Antilles	Guilders (also called Florins)
AOA	Angola	Kwanza
ARS	Argentina	Pesos
AUD	Australia	Dollars
AWG	Aruba	Guilders (also called Florins)
AZN	Azerbaijan	New Manats
BAM	Bosnia and Herzegovina	Convertible Marka
BBD	Barbados	Dollars
BDT	Bangladesh	Taka
BGN	Bulgaria	Leva
BHD	Bahrain	Dinars
BIF	Burundi	Francs
BMD	Bermuda	Dollars
BND	Brunei Darussalam	Dollars
BOB	Bolivia	Bolivianos
BRL	Brazil	Brazil Real
BSD	Bahamas	Dollars
BTN	Bhutan	Ngultrum
BWP	Botswana	Pulas
BYR	Belarus	Rubles
BZD	Belize	Dollars
CAD	Canada	Dollars
CDF	Congo/Kinshasa	Congolese Francs
CHF	Switzerland	Francs
CLP	Chile	Pesos
CNY	China	Yuan Renminbi
COP	Colombia	Pesos
CRC	Costa Rica	Colones
CUP	Cuba	Pesos
CVE	Cape Verde	Escudos
CYP	Cyprus	Pounds (expires 2008-Jan-31)
CZK	Czech Republic	Koruny
DJF	Djibouti	Francs
DKK	Denmark	Kroner
DOP	Dominican Republic	Pesos
DZD	Algeria	Algeria Dinars
EGP	Egypt	Pounds
ERN	Eritrea	Nakfa
ETB	Ethiopia	Birr
EUR	Euro Member Countries	Euro
FJD	Fiji	Dollars
FKP	Falkland Islands (Malvinas)	Pounds
GBP	United Kingdom	Pounds
GEL	Georgia	Lari
GGP	Guernsey	Pounds
GHS	Ghana	Cedis
GIP	Gibraltar	Pounds
GMD	Gambia	Dalasi

ISO-4217	Contryname	Currencyname
GNF	Guinea	Francs
GTQ	Guatemala	Quetzales
GYD	Guyana	Dollars
HKD	Hong Kong	Dollars
HNL	Honduras	Lempiras
HRK	Croatia	Kuna
HTG	Haiti	Gourdes
HUF	Hungary	Forint
IDR	Indonesia	Rupiahs
ILS	Israel	New Shekels
IMP	Isle of Man	Pounds
INR	India	Rupees
IQD	Iraq	Dinars
IRR	Iran	Rials
ISK	Iceland	Kronur
JEP	Jersey	Pounds
JMD	Jamaica	Dollars
JOD	Jordan	Dinars
JPY	Japan	Yen
KES	Kenya	Shillings
KGS	Kyrgyzstan	Soms
KHR	Cambodia	Riels
KMF	Comoros	Francs
KPW	Korea (North)	Won
KRW	Korea (South)	Won
KWD	Kuwait	Dinars
KYD	Cayman Islands	Dollars
KZT	Kazakhstan	Tenge
LAK	Laos	Kips
LBP	Lebanon	Pounds
LKR	Sri Lanka	Rupees
LRD	Liberia	Dollars
LSL	Lesotho	Maloti
LTL	Lithuania	Litai
LVL	Latvia	Lati
LYD	Libya	Dinars
MAD	Morocco	Dirhams
MDL	Moldova	Lei
MGA	Madagascar	Ariary
MKD	Macedonia	Denars
MMK	Myanmar (Burma)	Kyats
MNT	Mongolia	Tugriks
MOP	Macau	Patacas
MRO	Mauritania	Ouguiyas
MTL	Malta	Liri (expires 2008-Jan-31)
MUR	Mauritius	Rupees
MVR	Maldives (Maldiv Islands)	Rufiyaa
MWK	Malawi	Kwachas
MXN	Mexico	Pesos
MYR	Malaysia	Ringgits
MZN	Mozambique	Meticaais
NAD	Namibia	Dollars
NGN	Nigeria	Nairas
NIO	Nicaragua	Cordobas

ISO-4217	Contryname	Currencyname
NOK	Norway	Krone
NPR	Nepal	Nepal Rupees
NZD	New Zealand	Dollars
OMR	Oman	Rials
PAB	Panama	Balboa
PEN	Peru	Nuevos Soles
PGK	Papua New Guinea	Kina
PHP	Philippines	Pesos
PKR	Pakistan	Rupees
PLN	Poland	Zlotych
PYG	Paraguay	Guarani
QAR	Qatar	Rials
RON	Romania	New Lei
RSD	Serbia	Dinars
RUB	Russia	Rubles
RWF	Rwanda	Rwanda Francs
SAR	Saudi Arabia	Riyals
SBD	Solomon Islands	Dollars
SCR	Seychelles	Rupees
SDG	Sudan	Pounds
SEK	Sweden	Kronor
SGD	Singapore	Dollars
SHP	Saint Helena	Pounds
SLL	Sierra Leone	Leones
SOS	Somalia	Shillings
SPL	Seborga	Luigini
SRD	Suriname	Dollars
STD	São Tome and Principe	Dobras
SVC	El Salvador	Colones
SYP	Syria	Pounds
SZL	Swaziland	Emalangeni
THB	Thailand	Baht
TJS	Tajikistan	Somoni
TMM	Turkmenistan	Manats
TND	Tunisia	Dinars
TOP	Tonga	Pa'anga
TRY	Turkey	New Lira
TTD	Trinidad and Tobago	Dollars
TVD	Tuvalu	Tuvalu Dollars
TWD	Taiwan	New Dollars
TZS	Tanzania	Shillings
UAH	Ukraine	Hryvnia
UGX	Uganda	Shillings
USD	United States of America	Dollars
UYU	Uruguay	Pesos
UZS	Uzbekistan	Sums
VEB	Venezuela	Bolivares (expires 2008-Jun-30)
VEF	Venezuela	Bolivares Fuertes
VND	Viet Nam	Dong
VUV	Vanuatu	Vatu
WST	Samoa	Tala
XAF	Communauté Financière Africaine BEAC	Francs
XAG	Silver	Ounces
XAU	Gold	Ounces

ISO-4217	Contryname	Currencyname
XCD	East Caribbean Dollars	
XDR	International Monetary Fund (IMF) Special Drawing Rights	
XOF	Communauté Financière Africaine BCEAO	Francs
XPD	Palladium Ounces	
XPF	Comptoirs Français du Pacifique Francs	
XPT	Platinum	Ounces
YER	Yemen	Rials
ZAR	South Africa	Rand
ZMK	Zambia	Kwacha
ZWD	Zimbabwe	Zimbabwe Dollars

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