

SCANGATE[®]

LWF EDITION *keep it Simple*

IMAGE PROCESSING



**MOST POWERFUL SOFTWARE
FOR IMAGE PROCESSING & AUTOMATION**

ScanGate® LWF

The most powerful software for image processing

What is ScanGate® LWF ?

ScanGate® LWF is the most powerful stand-alone workstation/desktop software to automate your image processing needs. It helps to reduce the manual treatment of scanned pages to a minimum and speeds up the image processing due to automation.

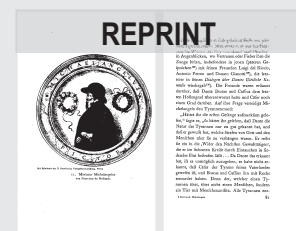
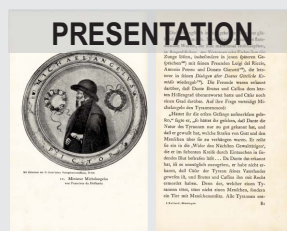
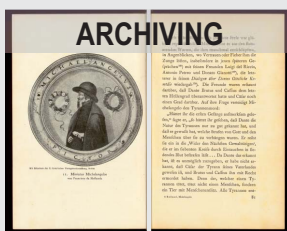
Customized local workflows (LWF) enables to create customer-proven & ready-to-use outputs for e.g. Archiving, Presentation & Reprint needs.

Advantages & Benefits

- Automated batch processing
- Customizing of local workflows (LWF)
- Efficient and simple job management
- Fastest quality control tools
- Live preview (of image treatment functions)



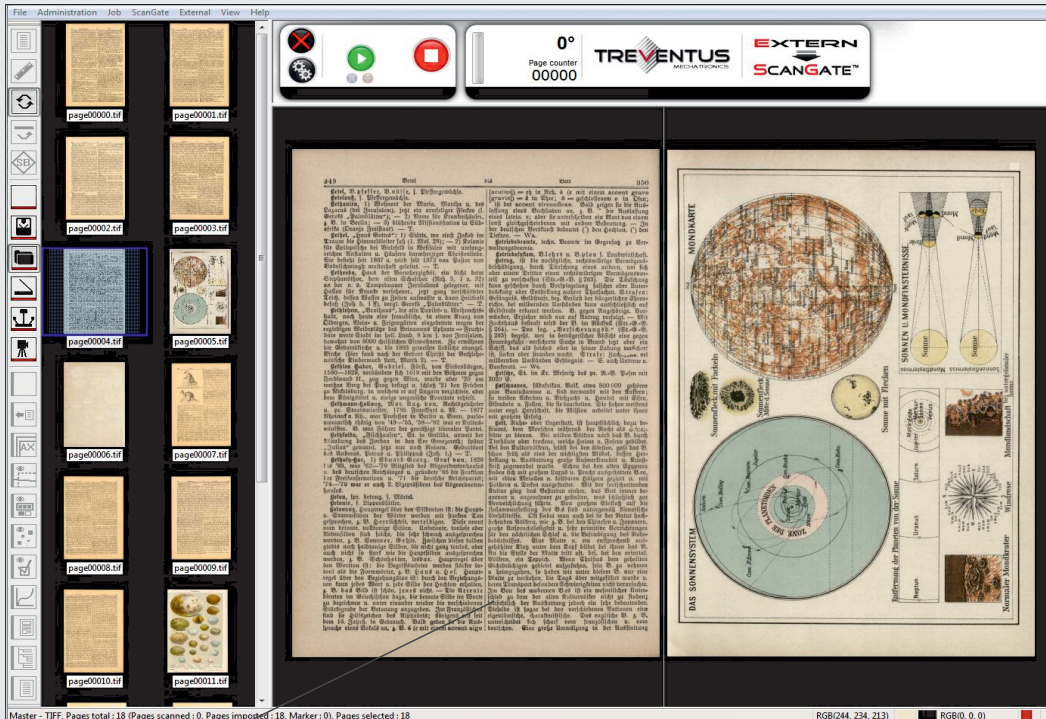
Examples for LWF outputs



USER INTERFACE & WORK COPY CONCEPT

ScanGate® LWF

Graphical user interface (GUI available in over 15 languages)



Live preview
(example showing final PRESENTATION output)

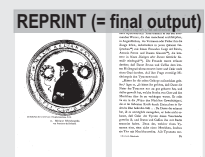
Unique "Master & Work Copy" concept

All processing steps are parameter based steps which are executed onto the copy file. This also ensures an undo possibility at every stage.



Applied functions:

- Deskewing, cropping and page splitting
- Background homogenization & binarization
- OCR, TIFF and PDF creation



LWF - STARTING POINT

Image type examples to start the ScanGate® LWF workflows

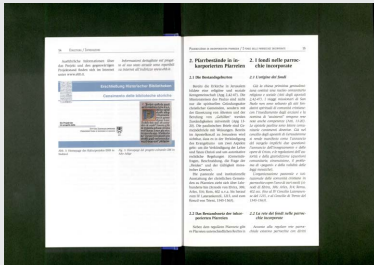
Master files / Source files

Typically the ScanGate® LWF workflow starts with the importing of images from your defined source (e.g. automatic book scanner, planetary scanner, flatbed scanner, document scanner, camera system etc.).

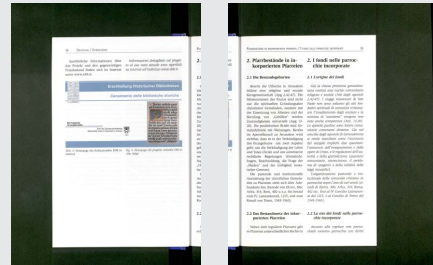
Based on the to be imported image type (see beneath) and due to the specified output needs a set of workflow steps will be composed to a customized LWF-workflow in order to achieve the best possible output result according to your requirements.

Image types

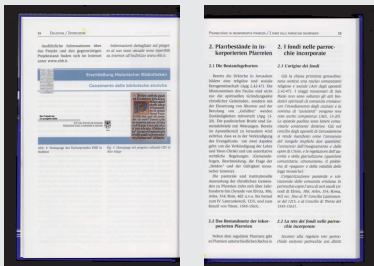
Double pages (2 pages on one scan)



Single left and right pages (with part of the other page visible)



Single left and right pages



Stand alone pages e.g. photos, maps, covers



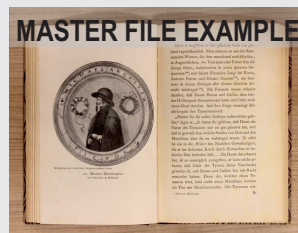
LWF - OUTPUT OPTIONS

Created by customized workflows of ScanGate® LWF

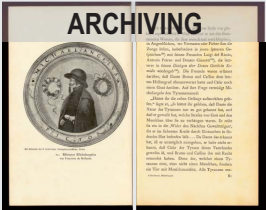
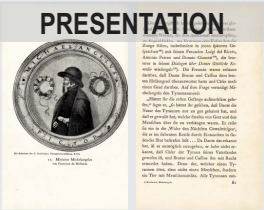
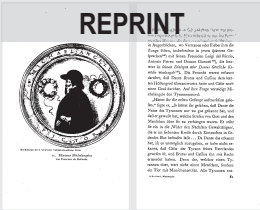
LWF workflows

The customized "LWF workflows" are applied to master files.

Within the LWF workflow tasks like deskewing, page splitting, cropping etc. are automatically executed to create the desired ready-to-use output (e.g. Archiving, Presentation or Reprint).




LWF output options

Output			
Goal	As close to the original as possible (facsimile)	Good looking images for presentation	Optimal quality for printer
Use cases	<ul style="list-style-type: none"> Digital heritage Digital master files 	<ul style="list-style-type: none"> Digital archive Web (downloadable content) 	<ul style="list-style-type: none"> Print on demand Reprint of books
Guidelines	<ul style="list-style-type: none"> Limited image processing (only rotation by multiples of 90° and cropping) Uncompressed file storage (except lossless compression) 	<ul style="list-style-type: none"> Good contrast & readability Background homogenization Deskewed & cropped (only page should be visible but no outside margins) Lossy file compression to achieve a small file size 	<ul style="list-style-type: none"> White background with black text Binarized Despeckled Deskewed & cropped (no borders visible)
Color depth	24 bit (color with ICC profile)	24 bit / 8 bit (color / grayscale)	1 bit (black and white)
Output format	TIFF	JPEG (optional: PDF)	TIFF (optional: PDF)
Compression	None	JPEG (lossy)	CCITT4 (lossless)
File size	Large	Small	Very small

ScanGate® LWF - WORKFLOW EXAMPLE

Hardware: planetary scanner / Output: PRESENTATION

Original scan




➔

Processing steps

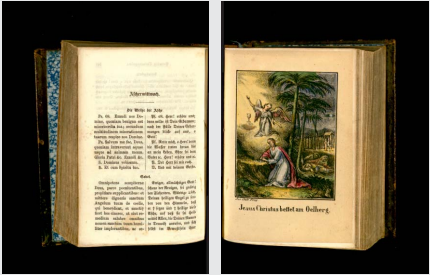
- Automatic page splitting
- Automatic border recognition
- Automatic cropping & deskewing
- Automatic background homogenization

Final output (Presentation)




Automated processing steps
(executed by the LWF workflows)

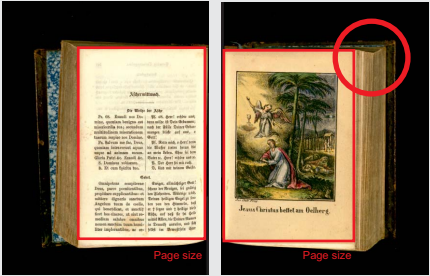
Page splitting




Final output result (= PRESENTATION)



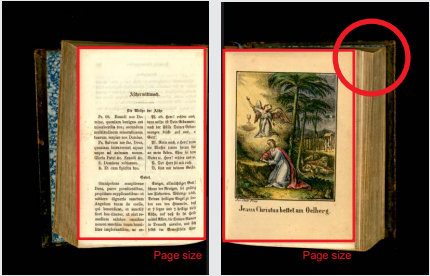
Border recognition




Background homogenized



Cropping & deskewing



Final output result (= PRESENTATION)



CUSTOMIZATION OF WORKFLOWS

ScanGate® LWF

Examples for customizations*

In close collaboration with the customer the the needed LWF-workflow will be designed due to your individual needs. E.g.:

- Automation of the creation of multiple or different outputs or file formats
- Automation of copying of files to a final storage place & empty the disk space from old files
- Implementation of a certain additional image treatment function within the workflow
- Executing of various image processing functions
- Task for customized file naming
- Adding of metadata
- etc.

* Please contact solutions@treventus.com to receive an offer for your individual customization needs.

Example of a customized workflow

#	Task
01	SCANNING - RT Output: Archiving (master tiffs, color, 400 dpi)
02	PAGE ORDER - Rename pages
03	IMAGE TREATMENT - Crop pages (smaller than page size)
04	IMAGE TREATMENT - Unsharp masking
05	FORMATS - Create Jpegs (greyscale, 300 dpi)
06	FORMATS - Create multipage PDF (bitonal, 600 dpi)
07	OUTPUT - Copy Jpegs to destination
08	OUTPUT - Upload PDF via FTP
09	ARCHIVE - Clean job and compress master tiffs (LZW)
10	ARCHIVE - Create backup copy of the job
11	CLEANUP - Delete job after 10 days

- ➔ Scanning of the images in the format "Output: Archiving"
- ➔ Rename all pages systematically
- ➔ Execute time consuming image treatment functions
- ➔ Create different output formats
- ➔ Copy the created output safely to its destination
- ➔ Reduce data size to a minimum for a backup copy
- ➔ Empty the disk space after a certain period

#	Job name	Pages	Task	Workflow name	Priority	Progress
1	Job_05	250	PAGE ORDER - Rename pages	BatchProcessingWorkflow_01	very high	<div style="width: 100%;"></div>
2	Job_01	100	FORMATS - Create Jpegs (greyscale, 300 dpi)	BatchProcessingWorkflow_01		<div style="width: 100%;"></div>
3	Job_03	150	ARCHIVE - Clean job and compress master tiffs (LZW)	BatchProcessingWorkflow_03		<div style="width: 100%;"></div>
4	Job_04	400	OUTPUT - Copy Jpegs to destination	BatchProcessingWorkflow_01		<div style="width: 100%;"></div>
5	Job_02	200	CLEANUP - Delete job after 10 days	BatchProcessingWorkflow_02	-1	<div style="width: 100%;"></div>

LWF - IMAGE OPTIMIZATION

Selected functions of ScanGate® LWF (full list see specifications)

Automatic background homogenization*

* This function is part of a LWF workflow for the "PRESENTATION" output.



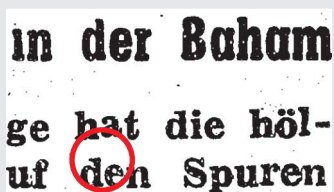
Original



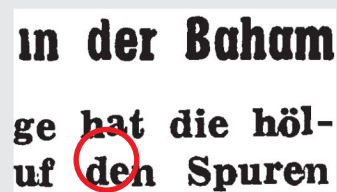
Image is unchanged,
only background is homogenized

Automatic despeckling*

* This function is part of a LWF workflow for the "REPRINT" output.



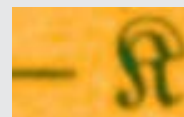
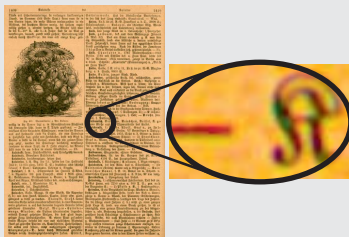
Binarized, white and black dots visible



White and black dots are removed

Automatic achromatism reducing

* This function can be implemented in a customized LWF workflow or can be also executed manually for each image.



Achromatism is removed

SPECIFICATIONS & ADD-ONS

ScanGate® LWF

Specifications

Unique local workflow concept (LWF) with automated batch processing

The ScanGate® LWF software with its customized local workflows (LWF) enables to automate the image processing and helps to generate outputs according to the requirements of archiving, presentation or reprint needs.

It helps to reduce manual treatment to a minimum of tasks and speeds up the image processing due to automation & automated batch processing.

Easy job management

The job management allows to monitor and organize ongoing batch processes of various jobs in a very easy way.

Powerful recognition & evaluation functions

Automatic border & page color recognition, text underline detection, split line detection, border evaluation (page size, page spread, distances etc.)

Comprehensive image treatment tools

Deskewing, cropping, rotation, extrapolation, ICC profile rendering, background homogenization / normalization, achromatism reducing, binarization (dynamic threshold), brightness / contrast adaption, unsharp masking, image scaling, page splitting, zip merge & unzip merge

Fast live preview:	For the fastest quality control of the treated images
DC metadata interface:	For the creation of fixed metadata xml-files based on the Dublin Core standard
External interface:	Eays import of single images / scans from a hot "folder"
Import interface:	Comprehensive interface for bulk importing from various folders
Input file formats:	JPEG, JPG2000, TIFF, TIFF G4, PNG, GIF, BMP
Output file formats:	JPEG, JPG2000, TIFF, TIFF G4, PNG, GIF, BMP, PDF, PDF/a
Multi language user interface:	Software available in over 15 languages
Minimum PC-requirements:	Memory: 8GB / Hard drive: 2TB (7.200 Rpm) / OS: Win 7 / 8 / 10 (64 bit)

Software add-ons* (optionally available; details see next pages)

OCR Enterprise solutions™ - UNLIMITED

Text recognition software for automated processing of OCR-jobs for over 130 languages (incl. Gothic/Fraktur).

Bookeye® Interface module

Available for models: Bookeye® 4 V1A, V1A-C35 Professional and V2 Professional Archive



Advanced image processing tools

E.g. color replacing, blurring, tiff tag changing, etc.

OCR Enterprise solution™ - UNLIMITED

Optionally available for ScanGate® LWF

Automated text recognition



OCRSOLUTIONS™

Functions / Features

OCR Enterprise solution™ - UNLIMITED

OCR page contingent

Unlimited (no page limitation)



Customization options / Flexibility

Pre-configured OCR workflows
(workflows are fixed / hard-coded; OCR languages can be set)



Performance

Batch processing of multiple OCR-jobs



Output formats (by default / standard)

PDF (PDF/a, multi- and single pages)



TXT (multi- and single page)



XML (hOCR, single pages only)



OCR languages

Over 130 available languages



(excerpt: Afrikaans, Azerbaijani, Bengali, Bulgarian, Catalan, Czech, Cyrillic, Danish, German, Greek, English, Esperanto, Estonian, Persian, Finnish, French, Hebrew, Croatian, Hungarian, Italian, Georgian, Latin, Latvian, Lithuanian, Nepali, Norwegian, Polish, Portuguese, Romanian, Russian, Slovak, Slovenian, Spanish, Swedish, Thai, Tibetan, Turkish, Ukrainian, etc.)

Gothic font (Fraktur) / Korean / Chinese / Arabic / Vietnamese



ADVANCED IMAGE PROCESSING TOOLS

Optionally available for ScanGate® LWF

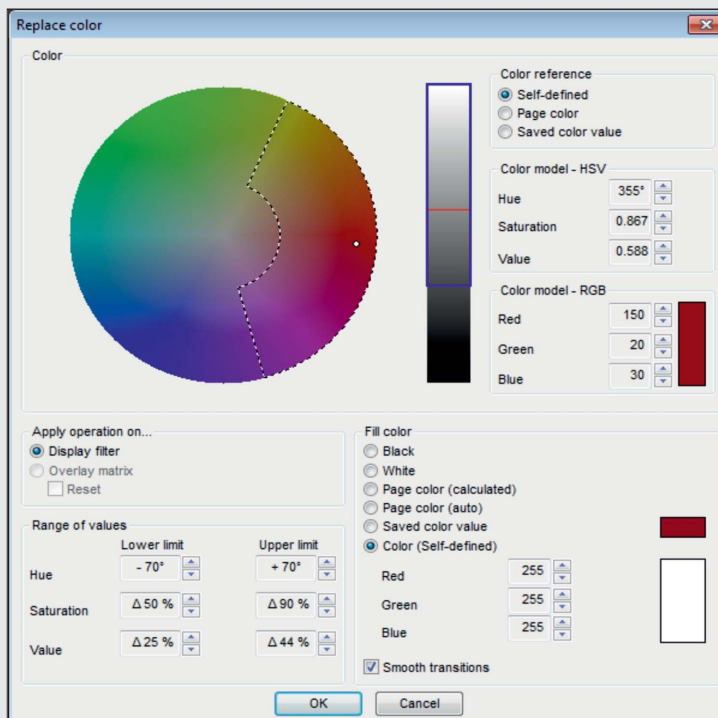
Advanced features* for your local workflows

- Color depth conversion, color replacing, background removing
- Moiré effect removing, blurring, black margin coloring
- Image file resolution setting, Tiff tag changing
- Watermark / ruler / trim mark adding, page combination
- Grouping of pages (group naming), page renaming

* Please contact solutions@treventus.com to receive an offer for your individual customization needs.

Example: Color replacing

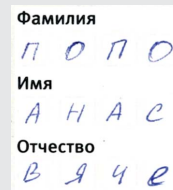
This function enables you to replace a color by another one.



Original



Red rectangles removed



Blue pen removed



REFERENCES (excerpt)



Awards of Treventus

Winner of the European ICT Grand Prize

Innovation prize of the Theodor Kery foundation

1st place in Genius Innovation Award

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