



The calibrate
Prepress Coach

Radix Map

Print 4.0 made easy



RADIX
Print 4.0 made easy

PART 1
Radix Map

PART 2
Radix Project

PART 3
Radix Preflight

PART 4
Radix Translate

PART 5
Radix Prepare

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As a service provider, calibrate Workflow-Consulting GmbH implements the automated process for the production of printed and electronic media worldwide. Radix is calibrate's modular product package consisting of services and software. The focus is on the automation of processes. Here, the focus is on security in the reconciliation of production data with the metadata for production. The goal is digitization – Print 4.0 made easy.

The calibrate Prepress Coach consists of five parts. In Part 1 „Radix Map – Print 4.0 made easy“; we provide an overview of process automation as we have implemented it in numerous projects.

Management Summary

The origin of the data for output on different media can be a web store with or without an editor, an ERP, PIM, MAM or DAM system. The goal is an uninterrupted, automatic and digital process. The challenge here lies in opening up and connecting the systems. We encounter this task in every project. However, the solution to the task is nearly always different.

Why is that? A glance at the general communication of people can help here. The way communication works is often simply taken for granted without any further thought. In order to make this complex topic accessible and understandable, there are various communication models. Paul Watzlawick drew on the basic idea of Sigmund Freud and sought to illustrate communication by means of an iceberg. Here, the visible area (about 20%) above the water is the

factual level (numbers, data, facts) and the area below (about 80%) is the relational level (feelings, instincts, experience, etc.). The two levels of this communication model differ from each other but are nevertheless interrelated. Thus, conflict situations often arise when the factual and relationship levels are not reconciled. Experience in project management shows that harmony can be achieved well with empathy and „well-tempered“ expertise.

Even when we talk about digitization, the social context of all stakeholders must not be forgotten. Ultimately, the amount of what we think and feel exceeds what we can put into words several times over. There is only so much we can do to influence what others really understand about it.

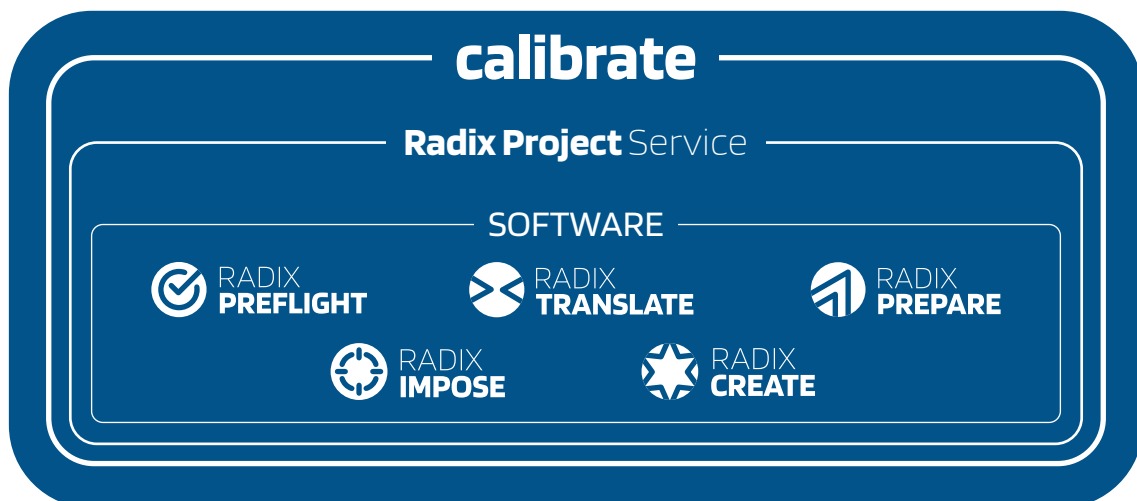


Fig. 1: Radix is calibrate's modular product package consisting of services and software.

In general, sound decisions are only possible if everyone has the same access to the relevant information - in other words, if there is maximum transparency with regard to the facts. The calibrate Prepress Coach with its various parts is intended to establish a common knowledge of the prerequisites.

It is important to understand that digitization follows the analogue path. If this path is very complex, digitization likewise becomes a complex issue.

Introduction

calibrate Workflow-Consulting GmbH achieves its in-depth expertise through active participation in national and international bodies such as PDFX-ready, the Ghent Workgroup, the European Color Initiative and the CIP4 Consortium. These committees are working on compulsory standards. This is the foundation, and in this document, we go into more detail with respect to our knowledge base and network.

The goal is to automate the processes. We have chosen „Radix“ as the name for the combination of consulting, services and software products. Radix, the Latin word for root, is our generic term for a whole range of modules.

The **Radix Project** sets the stage for networking with the Consulting, Support and Know-How options.

Thorsten Dirks, CEO of Telefónica Deutschland, vented his displeasure with poor digitization projects at the Süddeutsche Zeitung business summit in 2015:

„If you digitize a crap process, you have a crap digital process.“ While this insight is accurate, it is also a call to analyse the process first in order to identify any positive potential for transformation. This is the start of our work with you!

The **Radix Preflight Engine** provides automated checks and corrections in the production process.

The **Radix Translate** module establishes the interface between the data sender and the data receiver.

Finally, **Radix Prepare** readies the data for different printing processes. Depending on requirements, this module can be extended by **Radix Impose**, for rule-based assembly of print products for cost- and production-optimized output, and **Radix Create**, for dynamic generation of PDFs for the print output or relevant accompanying material.

To quick? Don't worry, the **calibrate Prepress Coach** will introduce you to all modules in detail. To begin with, we will cover the basics and the core functions in process automation.

Timeline ▶

1990

We use a **Canon colour copier** for the first time to output a colour proof

1998

Development of **Hermes H3**, a Markzscout (Markzware) based automated data checking system for open print data

1999

PDF 1.3, the first and still common PDF version for the printing industry, revolutionizes our work

2000

We first exhibit at **Millennium drupa**

2003

Founding of retail **inpetto prepress consulting and custom workflow programming**

2005

We become an **active member of the ECI (European Color Initiative)**

2007/08

Participation in PDFX-ready and GWG as Co-Chair

2010

Agreement of cooperation with the German **impressed GmbH**

PortalWorkflow: Development of an xml-based workflow solution for data correction and checking based on enfocus Switch and callas pdfToolbox

Automation:

What is important for the user?

Automated processes are the key advantage in the digital production of all forms of media. We build sustainable structures and enable you to benefit from process automation. When checking and correcting PDF data, comprehensible and early feedback to the user is an important component.

If the PDF data does not conform to the defined meta information, the information is given immediately. Now it is possible to make the corrections yourself or to let **calibrate Radix** correct the data automatically. **calibrate Radix** is faster than any user and works around the clock.

Radix core functions

- Data comparison TARGET / ACTUAL
- Definition of notes, warnings and stops
- Automatic application of corrections to the PDFs
- Automatic preparation of PDFs for different printing processes
- Electronic sheet assembly
- LFP preparation such as hemstitch production or the application of eyelet dots

Enablement

The focus is on the tailor-made environment for automation in your company. We implement mutually developed concepts directly. Knowledge losses can thus be avoided and you benefit from our experience gained from numerous projects.

We apply industry standards and technology from Callas Software, Adobe, Colorlogic and Enfocus. The sophisticated application logic of the Radix modules is more than the sum of its parts. It includes dynamic colour management as part of the higher-level inspection and correction method. Another component is individual metadata, which serves as a reference for the PDF preflight check. Together, these two elements form the basis for harmonizing PDF files. Any number

of files can be checked dynamically, with (nested) checking rules being derived based on the metadata.

The applications can be installed in a commercial cloud, in a private cloud or on-premise on existing servers. The key is where storage intensive data resides or comes from

Radix core functions

- Colour management
- Proofing and correction
- Assembly
- Dynamic PDF generation
- Finishing

2014

Development and release of PDFX-ready 2.0 specifications based on PDF/X-4

2015

Experts meeting on the definition and output of PDF with transparencies and calibrated colour spaces flowed into ISO 32000.2.

Entry into **calibrate Workflow-Consulting GmbH**

2017

First version of calibrate masterProfile (today **Radix Preflight**); development of the first version of API-based Preflight (today **Radix API**), together with impressed GmbH

2018

First version of calibrate placeContent API (today **Radix Create**)

2019

Acquisition of Workflow-Consulting GmbH and **start of development of IWS-Pro** with impressed GmbH

2021

Release of the **new Radix API** and the expansion stages of Preflight, Prepare, Create and Translate

Process optimization and preparation

We create the space for you to take a step back and make the processes sustainable. The selected tools offer the opportunity to make the workflow more efficient. The automated processes open new doors for optimization. As an enabler for process automation, calibrate Radix provides a stable hub for handling

all data. Regardless of whether the data comes from an ERP, PIM, MAM, DAM or webshop system – calibrate Radix is flexible and can be customized. We have the most diverse system landscapes with our customers and find the right way for all of them.

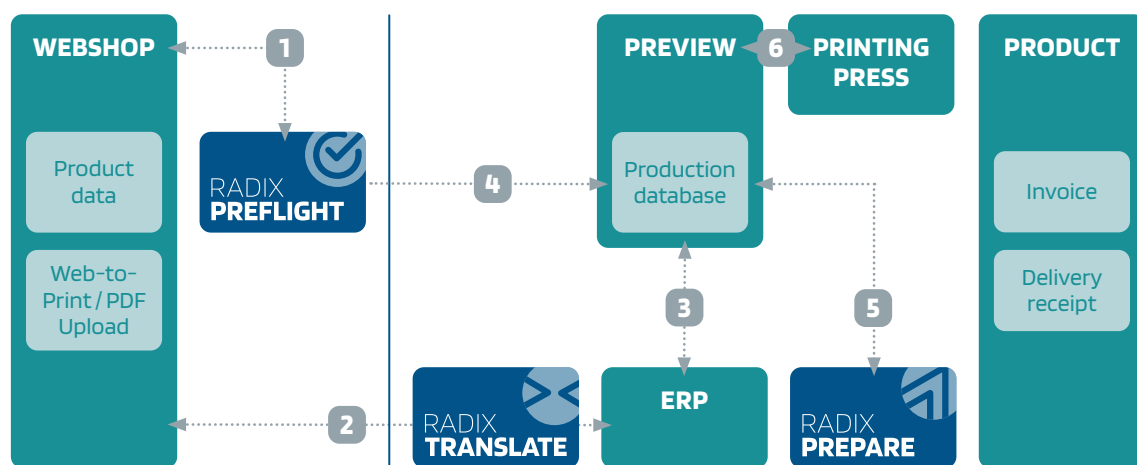


Fig. 2: One of many possibilities

- 1**
 - Product data and PDF go to **Radix Preflight Engine** for checking.
 - Radix corrects and reports result (error yes or no) and provides preview images and check report.
- 2**
 - Webshop signals order to MIS with metadata (check result and link to print data).
 - ERP reports status to webshop user „order received“ or „in progress“ or similar.
 - **Radix Translate** acts as a universal interface between the systems.
- 3**
 - ERP reports order items to the production database.
 - Production database reports status to MIS users.

- 4**
 - Production database fetches the production data from the **Radix Preflight Engine**.
- 5**
 - Preparing the data for the appropriate printing process.
 - Production database reports to ERP that data is ready for printing.
 - **Radix Prepare** is able to prepare data for various printing processes
- 6**
 - Production database sends data to printing press.
 - Printing press responds with status about production (if possible).

Training and Knowledge Management

New processes require a transfer of knowledge. It is necessary to raise the awareness of those involved. By initiating automation through workshops and training, you lay the foundations for a smooth start. We explain the tools and best practices.

This includes technical training for your workflow team. Want to extend the digital value chain to your customers? We have the knowledge and technology to do so and are your automation enabler.

Knowledge base

PDF/X is an important ISO standard for PDF-based print data. The aim is to ensure that data is transmitted true to the original. While PDF/X-1a ensures true colour reproduction in the CMYK colour space, PDF/X-4 aims to exchange data in a media-neutral manner. The calibrate networkers are familiar with the various industry standards and apply their rules in the processes.

PDFX-ready is the association of leading publishing experts whose objective is the secure and efficient exchange of data. Peter Kleinheider, Managing Director of calibrate, heads the Technical Working Group there, with which he is responsible for working out the correct basic settings in the publishing programs. Through active participation in the Ghent Workgroup (GWG), PDFX-ready benefits from information on current developments around the ISO standard PDF/X. The majority of the work of the GWG is performed by the subcommittees. Peter Kleinheider shares responsibility here with international experts in the areas of colour management and specifications.

The calibrate team works with the European Color Initiative (ECI) to spread colour management in practice. Based on xJDF, calibrate (as a member of the CIP4 consortium) creates interfaces between management software and applications in the production workflow.

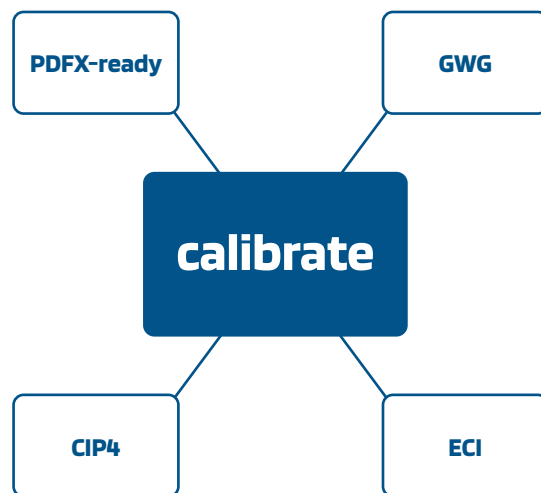


Fig. 3: The collaboration in the various organizations forms the basis for calibrate's knowledge.

Collaborative Network

calibrate

www.calibrate.at

calibrate is the central contact for companies with media production – PDF workflow automation, integration, training, service and support from a single source. calibrate offers consulting, project definition, project support as well as realization and implementation of individual requirements. Coordinated seminars and workshops as well as service and support during operation facilitate the digital day-to-day business.

zipcon consulting

www.zipcon.de

zipcon consulting GmbH is one of the leading consulting companies in the print and media industry in German-speaking countries. We see ourselves as an independent and comprehensive technology and strategy consultancy operating worldwide.

Zipcon, based in Essen, Germany, is a driving market innovator in the areas of mass customization, web-to-print, automation, workflow and quality assurance. The company focuses on the use of new technologies in the industry and their implementation in business processes. The insights gained through market observation and analysis by founder and managing director Bernd Zipper are published in lectures, in studies and on zipcon's own channels and made available.

Impressed

www.impressed.de

Impressed GmbH offers solutions for the areas of media production and digital prepress. The technologies of Callas, Adobe, Colorlogic and Enfocus are the basis from which to start and subsequently develop efficient applications. With the Impressed Workflow Server (IWS) as an integral tool, central, database-supported job management and browser-based job control can be offered. With the right components, logical processes can be executed automatically – ensuring security!

Artoption

www.artoption.de

We see ourselves as an innovative and goal-oriented product forge that transfers high-end technologies for prepress and media production to the cloud in a user-friendly and cost-efficient manner. This was achieved on the one hand through the trusting cooperation with our technology and OEM partners (calibrate Workflow-Consulting GmbH and callas software GmbH) and our own software development.

February 2021 was a milestone for Artoption GmbH: 3CPDF – the first in-house developed, cloud-based and platform-independent PDF checking tool was presented to our customers.

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