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Digitize, optimize and automate office operations

The way to effective document management in front and back-office processes

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Content

Document management strategy - the key to business optimization

The most common reasons for digitization in organizations are to reduce paper circulation, speed up the process and reduce costs. Large banks, as well as other financial institutions, receive, create and process large amounts of documentation in their branches and are often leaders in innovation and implementation of new technological solutions in document management.

The story of optimization and digitization is easiest to divide into two segments:

1. What happens to the documents we receive?
2. What happens to the documents we create?

The answers to these two key questions are:

1. All documents we receive need to be converted into electronic form.
2. Create, process, store and keep all documents in electronic form.

This requires an appropriate technological solution that will manage all information, records and documents in a unique way, regardless of whether they are in physical or electronic form.

The way from theory to digital practice

When we talk about the implementation of business digitalization, we can divide it into 5 steps:

1. Digitization of documents - conversion of paper documents into digital format with the help of OCR.
2. Content organization - categorization and centralization of document management.
3. Collaboration - sharing, collaboration and content management.
4. Process automation - digitization of business processes using electronic documents and forms.
5. Process integration - connecting with other applications and systems.

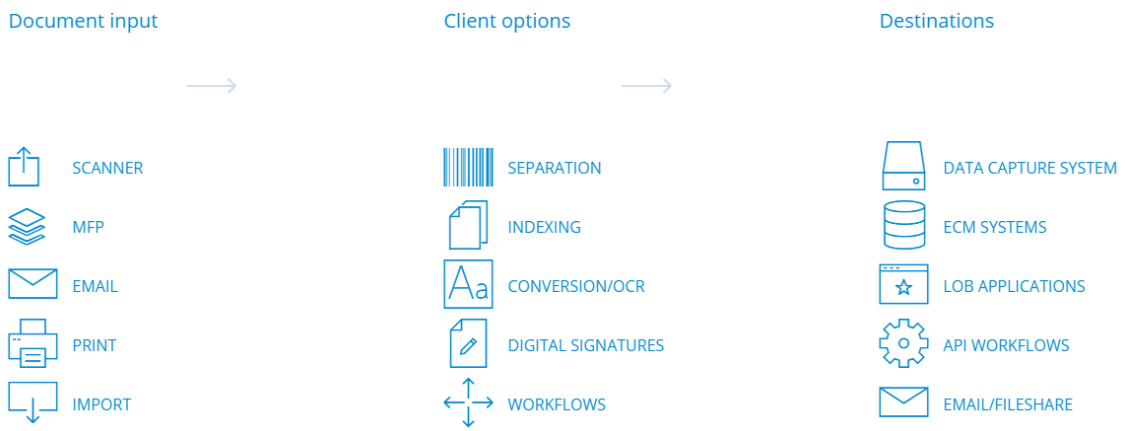
And what does that story look like in everyday practice?

Let's remember two key moments from before - we made sure that we create all documents in electronic form, but we still receive a lot of them in physical or paper form.

What about them?

The scenario can be classified into 3 categories:

1. Document input – how we receive documents.
2. Client options – how we can process and manage them.
3. Destinations – where we will save or archive the processed documents.



Unification of document management systems

As digitization has taken place and is still taking place gradually, so the system is organically expanding and bringing many, often different technologies. If you've been through a good chunk of digitization, we believe that a situation where all of these parts sometimes don't work the way we would like (where agility declines and the IT department often has its hands full) isn't completely unfamiliar to you.

Reducing the number of different systems and technologies will certainly reduce the number of problems, and with complete unification they will be reduced to a minimum. Simply put, when we have implemented one system to support a set of business processes - such as back-office processes in the bank, the situation is generally easier to manage for all participants: IT employees, employees and bank users.

Response time is much shorter, the organization is more flexible, efficient and ready to respond to customer requests, at a much lower cost.

Input and Output Management from one platform

Unification of the document management system implies the unification of all necessary functionalities within one system, ie platform, which covers two key areas:

- Input Management
- Output Management.

Each such system should have control over the input, processing and output of all documents and enable numerous integrations with the existing infrastructure and adaptations to the specific needs of the system in which it is to fit.

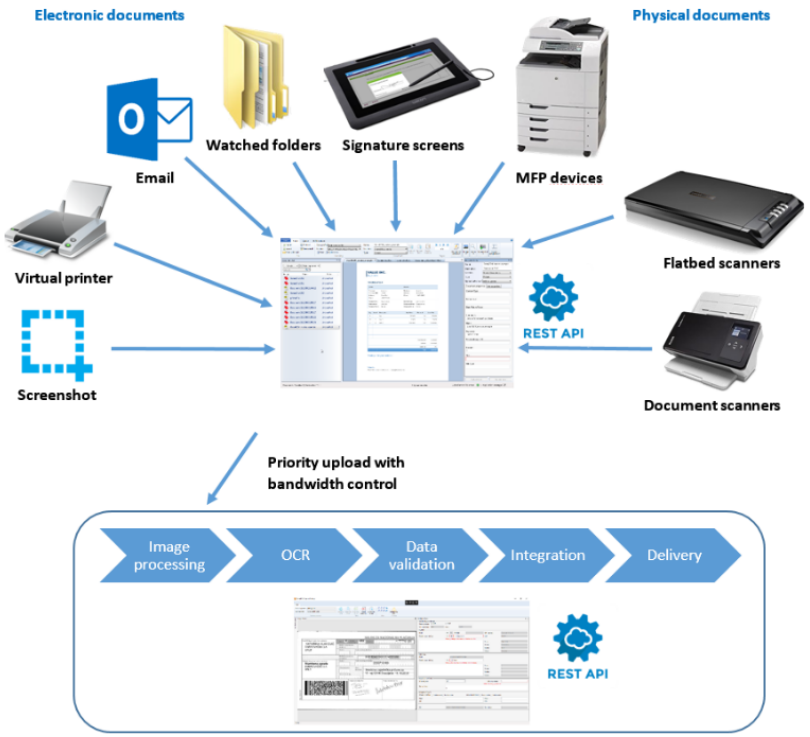
What do quality Input and Output Management include?

Primarily, you need a solution for collecting and processing electronic and physical documents with the aim of optimizing and unifying all incoming document and information flows into the organization.

Combined with support for various business processes, as well as support for a hybrid approach to collecting electronic and physical documents, a complete document management solution is provided:

- scanning of all physical documents through various sources (MFPs, scanners, etc.);
- processing and automation of digital documents through the same client;
- sorting, indexing and optional OCR during the scanning process;
- automatic routing and storage of physical and digital documents in different locations.

Undisturbed receiving of documents and data



Scanning via MFP or network scanners

The most common way to distribute office scanning is to leverage existing infrastructure using MFP multifunction devices or network scanners. This includes scanning to the device and sending it directly to a central server for further processing or storage in the DMS (Document Management System) repository.

With more advanced solutions, users can overcome common problems that occur when scanning with MFPs or network scanners:

- full review of scanned documents before sending for further processing,
- error correction in scanned documents,
- managing priorities for sending scanned documents,
- indexing of additional metadata - for certain documents immediately after their recording,
- support for monitoring the quality of the entire SLA process and requirements.

Import email with attachments

Documentation in the organization often comes by e-mail, so it is important to create the ability to automate the entry of data from your inbox by dragging and dropping (drag & drop) e-mail and its attachments, so that:

- the selected business process determines the destination,
- users can choose from several options: email only, attachment only or email and attachments,
- e-mail attachments are imported in their original form (PDF, TIFF, PNG, XML, etc.)
- data received by e-mail is processed automatically, just like data from paper documents.

Applying the same business rules, the data is transferred to the selected destination, in the same way as the scanned documents.

Integration with Microsoft Office applications (plugins)

One additional button in the toolbar, ie integration with Microsoft Office applications will be enough to process data and continue the business process directly from Outlook, Word and Excel.
When sending, you select the business process to which the specified document or e-mail file refers as well as the potential automatic conversion of the format to PDF when sending the document.

The growing need for a quality OCR solution

Optical Character Recognition (OCR) is a technology that recognizes text within a digital image, the most commonly scanned document, and thus replaces the manual entry of data from a physical document into the system and significantly speeds up the process.

Image processing and enhancements

Once accepted, a number of image processing functions take place to improve the quality of the document for further recognition or archiving. Image processing technologies include:

- image scaling, cropping, line smoothing, background removal, etc.;
- automatic detection of page orientation (90, 180 and 270 degrees);
- automatic image distortion (up to +/- 20 degrees);
- despeckle, clean up.

ID cards OCR - MRZ and full OCR

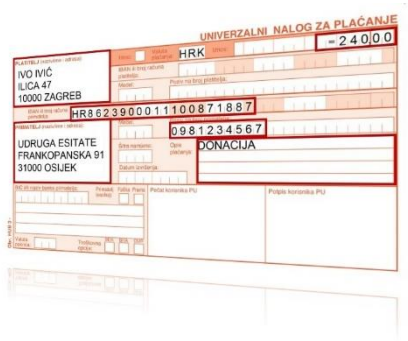
OCR and automation for scanning, recognizing and extracting the required data from ID cards, passports and driver's licenses in Croatian and other languages are also extremely important for speeding up the process of entering data into the system.

These are most often the following functionalities:

- automatic recognition of the document type: ID, passport, driver's license,
- MRZ reading (machine-readable zone) data,
- reading the entire document: image, signature and other fields outside the MRZ.

OCR payment orders – barcode and full OCR

Using an advanced filter for digital image processing and optical character recognition, the best OCR results are obtained for further processing.



- Dual shooting to enhance OCR from colour images and retain black and white colour images for archiving.
- Reading readable barcode data and filling in.
- Pre-configured algorithms, data type (name, surname, amount, etc.) to confirm the extracted data.
- Support for dictionaries and lists of allowed terms.
- After processing, improvement of accuracy standards.
- Custom logic to replace text in post-processing.
- In-line control before OCR data delivery (eg read-to-database comparisons).

Mobile solution for Android and iOS

Although we most often use mobile solutions when we are on the move, they also show their practicality in the office.

The goal is to enable:

- scanning of all physical documents via mobile phone/tablet and associated mobile camera,
- processing and automation of digital documents via a mobile client,
- sorting and indexing during the scanning process,
- automatic routing and storage of documents in
- different locations.

Mobile phone scanning with automatic image processing

In addition to ease of use, mobile scanning allows you to use advanced image processing features immediately after scanning, such as:

- automatic detection of the document in the image,
- perspective correction,
- distortion correction,
- automatic colour correction and the like.

The documents themselves can be scanned individually or additional pages of the document can be added as needed.

Scan scenarios:

1. Scanning documents by sending them directly to the server for further processing, with selecting the corresponding business process and entering the necessary metadata.
2. Initial scanning of the document barcode to set up the business process and then scanning the documents.
3. Paired modes - in this option the mobile client is directly paired with the desktop client and all documents scanned via the mobile phone are automatically transferred to the client computer with the display of scanned documents for further processing on the computer.

Start signing the document on the mobile device

An additional advantage is the ability to integrate with electronic signing solutions, so that a process that directly guides the user through the signing of the document can be initiated directly from the mobile phone.

Total priority control and network bandwidth management

When it comes to data transfer that needs to be sent for further processing, especially in low-bandwidth environments, the ability to prioritize transfer and bandwidth control for better network management and service quality is important. For critical business scenarios - allocation of full bandwidth, while for other processes only a certain percentage, depending on the importance for

the business and on the infrastructure components. Priority is given when sending documents to ensure that important documents go first for further processing.

API solutions - add new functionalities to existing applications

Although unifying or at least reducing the number of different systems and technologies reduces the number of potential operational difficulties, there are various scenarios as to why it is sometimes necessary to retain an existing technology, application, or system.

In such situations, it is good to avoid new robust systems that can further burden the existing situation. The current system will more easily submit, and users accept, the use of API solutions. The user application interface remains primary, and through various modules in the background, individual functionality is called.

- image retrieval,
- image processing,
- form processing,
- scanning,
- barcoding,
- import,
- conversion to PDF,
- digital signing,
- OCR,
- control of local devices ...

What after the document input?

After input, the process continues with background processing specific to individual business processes such as: processing of incoming invoices, processing of payment orders, processing of barcoded documentation and the like.

The automation and maximum efficiency will be taken care of by the functionalities of the BPM (Business Process Management) platform, which in the background enables the creation of arbitrary processes and complete adaptation to the specifics of each process.

Finally, the processed documents need to be delivered directly to several different repositories and business systems. Export of documents (usually in PDF) can be done in:

- file systems,
- ECM systems,
- Capture systems,
- LOB applications,
- CRM
- ERP,
- cloud storage,
- Core and various other applications via API.

In addition to the content itself, a standard set of metadata and data audit are delivered.

Specifics of business needs vs *One size fits all* solutions

Given global developments and numerous changes, **the story of digitalization has turned from a buzzword into a real need** and has enabled many at key moments to necessarily reshape their businesses so that organizations can function in new environments.

Unfortunately, Enterprise *vendors* often fall into the trap of inertia when it comes to innovation and do not invest excessively in new functionalities, aiming for ***one size fits all*** solutions that, regardless of the price, do not suit everyone. Companies need solutions that will meet all the requirements arising from the specifics of the business, in order to successfully adapt to customer requirements and remain competitive, without compromise.

Global trends in business digitalization should also be taken into account:

- **Reduction of TCO costs** for digitization.
- **Modernization of solutions** with API approaches and modern interfaces.
- **Additional automation** of the complete process from **BPM** to **RPA**.
- **Security in the processing work** imposed by **GDPR, ISO** and other standards.
- **Content optimization** from size, format and long-term factors.
- **OPEX procurement model** versus **CAPEX model.**

Achieve a balance between regulation, business and costs

In day-to-day operations, **there are more and more regulations and restrictions on business and privacy**, we are no longer just talking about increased regulation by national governments and local regulations.

Virtual and distributed activities (from home office to remote office) are common, and organizations struggle with the lack of best practices and norms during the transition to a digitized work model.

Information is at the heart of the transformation, so we need to constantly create a balance between regulatory compliance requirements and the costs that result from this transformation.

Also, one should keep in mind **the costs of future implementations** in order to choose solutions based on the principle of "flat rate" volume (without calculation by page volume and additional costs at increasing use) and low costs of additional jobs and annual maintenance.

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The digitalization solution should primarily meet the needs of various business scenarios as well as adapt to the specific needs of users: from **desktop** to **mobile devices**, from **client API solutions** to **server API solutions**. Special emphasis should be placed on the possibilities of **integration with the existing infrastructure** in order to make the implementation very simple and fast.

In addition, the optimal solution is one that enables **complete management of the input, processing and output of all documents.** The unification of the system for receiving and processing documentation enables a significantly **lower TCO of the complete infrastructure** with **additional functionalities** and a **modern user experience** that enables organizations to **efficiently improve their business**.

IT Sistemi – Nove Tehnologije d.o.o.
Zrinsko Frankopanska 64, 21000 Split
Baštijanova 52a, 10110 Zagreb
itsistemi.com
info@itsistemi