



Do More with Documents

The Modern IT Leader's Guide to OCR

Turning Static Documents Into
Searchable, Actionable Data

A practical guide for IT decision-makers and
knowledge workers



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Despite decades of digital transformation, paper documents remain deeply embedded in business operations. Invoices, contracts, patient records, compliance forms, and legal agreements continue to flow through organizations in formats that modern systems cannot read, search, or process. For IT leaders tasked with reducing costs, improving efficiency, and managing risk, this disconnect creates real friction.

Optical Character Recognition (OCR) bridges this gap. By converting scanned documents and images into searchable, editable digital files, OCR transforms static content into data that can be indexed, analyzed, automated, and secured. The technology has evolved significantly from its origins as an accessibility tool in the 1970s to become an essential component of modern document workflows.

This white paper is designed for IT decision-makers and knowledge workers who need to understand what OCR is, why it matters now, and how to evaluate solutions. You will learn how OCR works, where it delivers the most value across industries, what to look for when selecting a solution, and how organizations are using OCR to accelerate work and reduce manual effort.

The goal is straightforward: help you make informed decisions about document digitization so your teams can stop fighting their tools and start moving with momentum.

The Problem: Paper Isn't Going Away



Most organizations have invested heavily in digital tools and cloud infrastructure. Yet paper persists. Invoices arrive by mail. Contracts are printed for signature. Compliance forms are filled out by hand. Healthcare providers manage patient intake on clipboards. Legal teams receive discovery documents in boxes.

When these documents are scanned, they become image files that look like text but are actually just pixels. A scanned invoice cannot be searched. A photographed receipt cannot be automatically entered into an expense system. A PDF of a signed contract cannot be indexed alongside your other agreements.

This creates hidden costs that compound over time:

- ✘ **Manual data entry:** Staff retype information that already exists in scanned documents, wasting hours and introducing errors.
- ✘ **Compliance risk:** Documents that cannot be searched are documents that cannot be easily audited, tracked, or retrieved for regulatory review.
- ✘ **Lost productivity:** Knowledge workers spend time hunting through folders of image files instead of doing their actual work.
- ✘ **Blocked automation:** AI and workflow tools require structured data - they cannot process a photograph of a form.

For IT leaders who feel pressure to reduce software spend while improving operational efficiency, this is a solvable problem. OCR provides the bridge between paper-based processes and the digital workflows that modern organizations require.

What Is OCR?



Optical Character Recognition is a technology that transforms printed or handwritten text into machine-readable digital content. OCR analyzes scanned documents, images, or image-based PDFs and converts the visual representation of text into actual text data that can be searched, edited, copied, and processed by other software.

Consider a practical example: You scan a paper receipt, and the resulting file is an image. The words "Total: \$47.82" appear on screen, but to your computer, this is just a collection of pixels, no different from a photograph of a tree. Without OCR, the text inside that image cannot be searched, extracted, or used in calculations. With OCR, the software recognizes those characters and stores them as searchable text: "Total: \$47.82" becomes data you can work with.

How OCR Works

OCR software processes documents through several stages:

- 1 Image Analysis:** The document is scanned or photographed and converted into digital image data. The OCR software identifies areas of text and background by analyzing light and dark regions.
- 2 Image Preparation:** The system improves image quality by smoothing text edges, removing visual noise, correcting alignment issues, and identifying different writing systems or languages. Tables, lines, and document structure are also identified.
- 3 Text Recognition:** The OCR engine identifies characters using feature analysis and pattern recognition. Individual characters or entire words are matched against known shapes and structures to determine the most likely text.
- 4 Post-Processing:** After recognition, the extracted text is converted into a usable file format. The software may apply spell-checking and layout adjustments to improve accuracy. Higher-quality source scans produce better OCR results.

The Evolution of OCR

OCR technology was developed in the 1970s, initially designed to help users who were blind or visually impaired access printed text. Early systems focused on recognizing standard fonts and printed material under controlled conditions.

Over the following decades, OCR became widely used for digitizing newspapers, books, and historical records. Advances in computing power and pattern recognition have dramatically improved accuracy and processing speed.

Today, OCR technology includes several approaches:

- ✂ **Template-based OCR** relies on stored character templates for matching
- ✂ **Intelligent Character Recognition (ICR)** uses machine learning to interpret text more like a human reader
- ✂ **Intelligent Word Recognition** focuses on entire words rather than individual characters
- ✂ **Optical Mark Recognition** identifies checkboxes, symbols, and visual indicators

Modern OCR solutions combine these approaches to handle complex layouts, multiple languages, handwriting, and high-volume document processing.



Why OCR Matters Now



The case for OCR has strengthened considerably as organizations pursue digital transformation and AI-powered automation. Several factors make OCR more relevant today than at any point in its history.

Digital Workflows Demand Searchable Content

Modern document management systems, contract lifecycle management platforms, and enterprise search tools all require text-based content to function. An image-based PDF cannot be indexed by your DMS. A scanned contract cannot be searched alongside your digital agreements. OCR provides the foundation that makes documents usable within digital ecosystems.

AI and Automation Require Structured Data

Artificial intelligence is transforming how organizations process information, but AI cannot work with photographs of text. Machine learning models, intelligent document processing systems, and automated workflows all require data in a format they can read. OCR converts visual information into the structured data that powers automation.



Accessibility Is a Legal and Ethical Requirement

OCR plays an important role in accessibility. By recognizing text and document structure, OCR enables assistive technologies - screen readers, magnification tools, and text-to-speech systems - to access scanned content. Users who are blind or visually impaired can interact with documents that would otherwise be inaccessible. For many organizations, this is not optional; accessibility compliance is a legal requirement.

Remote and Hybrid Work Requires Document Portability

With distributed teams working across locations, documents must be accessible from anywhere. Paper files sitting in a cabinet serve no one working remotely. OCR enables organizations to digitize physical archives and make content searchable and shareable across the enterprise without requiring physical access to original documents.



OCR Use Cases by Industry



OCR is used wherever printed materials need to become machine-readable digital documents. Because different industries work with different document types and volumes, OCR delivers value in distinct ways depending on the workflow.

Business Operations

In general business environments, OCR reduces manual data entry and improves efficiency as document volumes grow. Organizations use OCR to digitize records, extract information into spreadsheets or databases, centralize documentation, and reduce the risk of lost or outdated files. Digital documents are easier to secure, share, and keep current.



Common applications include processing incoming mail, digitizing legacy paper archives, extracting data from printed forms, and converting scanned contracts into searchable files that can be managed alongside born-digital agreements.

Legal

Legal teams handle enormous volumes of documents: contracts, court filings, discovery materials, correspondence, and compliance records. OCR enables attorneys and paralegals to search across document sets instead of manually reviewing page by page. This is particularly valuable during discovery, where the ability to quickly locate specific terms or clauses across thousands of documents directly impacts case outcomes and billable hours.



Healthcare

Healthcare organizations use OCR to digitize patient records, prescriptions, test results, and insurance documents. Converting paper records into searchable digital files helps providers access information more quickly, reduces administrative burden, and decreases errors associated with manual transcription. In an industry where accurate, timely information directly affects patient care, the efficiency gains are meaningful.



Finance and Insurance

Financial institutions and insurance companies process high volumes of forms, applications, invoices, and claims. OCR automates data extraction from these documents, reducing processing time and enabling faster customer service. Invoice processing, in particular, benefits from OCR—extracting vendor names, amounts, and line items from scanned invoices allows accounts payable teams to work more efficiently and reduces the risk of duplicate payments or missed discounts.



Government

Government agencies manage vast archives of records, many still in paper form. OCR supports records modernization efforts, enabling citizens to search historical documents and helping agencies respond more quickly to records requests. Digitization also supports disaster recovery. Digital copies of essential records can be backed up and distributed in ways that paper cannot.



Education

OCR supports learning by making printed materials more accessible and flexible. Students and researchers can scan paper documents and convert them into digital files that support highlighting, annotation, text resizing, and text-to-speech. This is especially helpful for students with learning differences, allowing content to be adapted to individual needs and study styles.



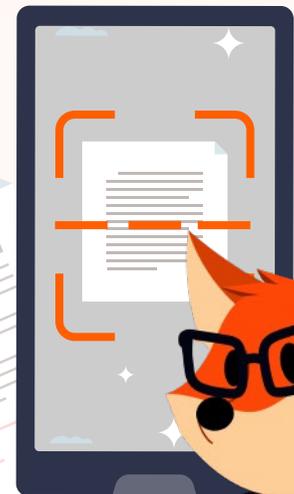
Evaluating OCR Solutions: What to Look For



A wide range of OCR tools are available, from basic consumer utilities to enterprise-grade platforms. When evaluating options, consider these factors:

Recognition Accuracy

Accuracy is the foundation of any OCR solution. Poor recognition creates downstream problems: errors that require manual correction, data that cannot be trusted, and workflows that break. Look for solutions powered by proven OCR engines with strong track records across diverse document types and quality levels.



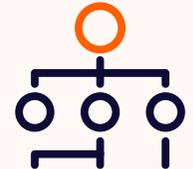
Language and Character Support

If your organization handles documents in multiple languages, ensure your OCR solution supports them. This includes not just major European languages but also complex scripts, right-to-left text, and specialized character sets relevant to your industry.



Integration With Document Workflows

OCR should fit naturally into how your teams already work. The best solutions integrate OCR directly into PDF editing, document management, and signing workflows so users can scan, recognize, edit, and finalize documents without switching between applications. Standalone OCR tools that require exporting and importing files add friction, reducing adoption.



Security and Compliance

Documents processed through OCR often contain sensitive information: financial data, personal health information, legal agreements, proprietary business content. Ensure your OCR solution meets your security requirements and supports compliance with relevant regulations (HIPAA, GDPR, SOC 2, etc.). Consider where processing occurs, which can be on-device, on-premises, or in the cloud, and whether that aligns with your data governance policies.



Scalability

Consider both current needs and future growth. A solution that works well for individual users may not scale to enterprise batch processing. For organizations that process high volumes of documents, look for solutions designed for throughput, with batch processing capabilities, API access, and server-based deployment options.



Layout and Formatting Preservation

Some documents, such as forms, tables, and multi-column layouts, require OCR that preserves structure, not just text. Look for solutions that maintain the original layout and formatting so the digitized document remains usable without extensive reformatting.



Total Cost of Ownership

Evaluate licensing models carefully. Some solutions charge per page processed; others offer unlimited use under a subscription. Consider whether OCR is bundled with PDF editing tools you already need, or whether it requires a separate purchase. A solution that integrates OCR into a comprehensive document platform often delivers better value than point solutions purchased separately.



How OCR Drives Efficiency



By converting static documents into searchable digital files, OCR delivers measurable improvements across document workflows. Organizations that integrate OCR into their operations can:

- **Convert handwritten and printed documents into editable digital files** that can be updated, shared, and processed by other systems
- **Automate the review, verification, and processing of paper-based forms** instead of handling each document manually
- **Reduce manual data entry** and the errors that come with re-typing information from scanned documents
- **Quickly locate information by searching text** instead of sorting through folders of image files or physical archives
- **Centralize and secure documents** to reduce the risk of loss, misplacement, or unauthorized access
- **Maintain more accurate, up-to-date records** across teams and systems

The cumulative effect is significant: information becomes easier to access and manage, employees spend less time on repetitive document handling, and organizations can serve customers and stakeholders more effectively.

The Future of OCR: AI and Intelligent Document Processing

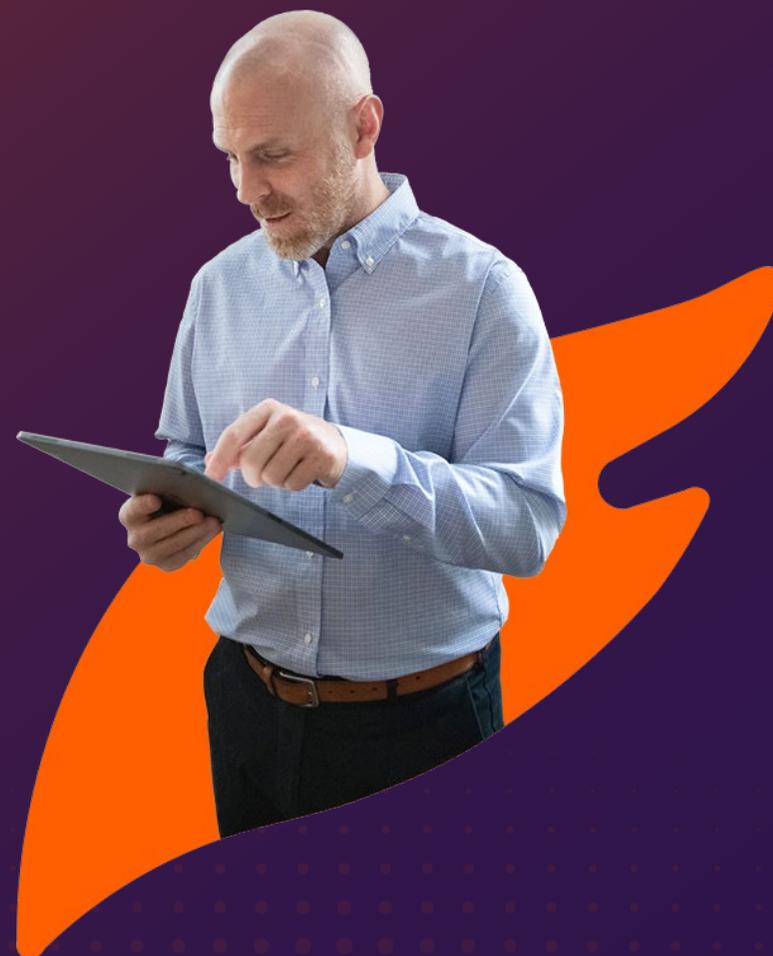
The future of OCR is being shaped by advances in machine learning and artificial intelligence that are changing how documents are understood and processed. These technologies allow OCR engines to learn from data, recognize complex patterns, and improve accuracy over time.

Traditional OCR focuses on character recognition, which is the identification of letters and numbers on a page. Next-generation systems are moving beyond this to understand context, structure, and meaning. A modern AI-enhanced OCR system can recognize that a block of text is an address, that a table contains line items, or that a signature field indicates where a document should be signed.

This evolution enables Intelligent Document Processing (IDP) workflows in which documents are not only digitized but also automatically classified, validated, and routed based on their content. An incoming invoice can be recognized as an invoice, its key fields extracted (vendor, amount, date, line items), validated against business rules, and sent to the appropriate approver - with minimal human intervention.

For IT leaders, this represents a shift from OCR as a utility to OCR as a foundation for document automation. The technology is no longer just about converting images to text; it's about making documents actionable inputs to business processes.

Organizations that invest in OCR today are building the foundation for more sophisticated document workflows tomorrow.



Conclusion: Taking the Next Step



Paper documents remain a reality for most organizations, but they no longer need to be a barrier to efficiency. OCR provides the bridge between physical documents and digital workflows, converting static images into searchable, editable, actionable data.

For IT leaders, the value proposition is clear: reduced manual effort, lower risk, faster information retrieval, and a foundation for automation. For knowledge workers, OCR means less time re-typing data and more time on work that matters.

When evaluating OCR solutions, prioritize accuracy, integration with existing workflows, security, and scalability. Look for solutions that make OCR a natural part of document creation and editing - not a separate step that adds friction.

Modern document workflows require modern tools. OCR is no longer optional for organizations that want to work faster, smarter, and with greater control over their information.

Learn More

Foxit PDF Editor includes built-in OCR powered by ABBYY, a leading provider of optical character recognition technology. This combination delivers high-accuracy text recognition integrated directly into PDF creation, editing, and security workflows.

With Foxit, users can convert scanned documents and image-based PDFs into searchable and editable files, preserve original layout and formatting, work across multiple languages, and edit OCR results immediately within the PDF. No switching between applications; no exporting and re-importing files.

For organizations that process high volumes of documents, Foxit OCR Maestro provides enterprise-grade OCR built for batch processing, accuracy, and scalable document workflows.

Explore how Foxit's document platform can help you digitize and manage documents at scale. Visit www.foxit.com to learn more.



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