

TCS Intelligent Digital Extraction Suite (TIDES)

Banking, Financial Services and Insurance



Due to an exponential rise in the availability of data and varied data requirements, enterprises are looking for a document processing, data extraction, and optical character recognition (OCR) technology suite in order to digitize information, increase the document processing speed, and reduce dependency on manual labor. A solution that leverages artificial intelligence, advanced machine learning principles (AI/ML) can help organizations ease the burden of processing documents and extracting information manually.

TCS Intelligent Digital Extraction Suite (TIDES) harnesses cognitive (AI/ML) capabilities such as artificial intelligence, machine learning (AI/ML), computer vision and natural language processing (NLP) in conjunction with OCR technology to make document processing and data extraction more efficient. The solution leverages a hybrid approach for information extraction from structured as well as unstructured documents to achieve optimal results with minimal training efforts. A partnership with TCS can help organizations make the information extraction and ingestion process more efficient, greatly improving the customer experience.

Overview

Enterprises are looking to transform their businesses - to digital channel-based service models - to automate document processing and data extraction and reduce associated cost of paper transfer, lineage, storage, and retrieval. However, the increasing availability of data and storage requirements need information digitization to facilitate easy extraction of insights.

The increasing use of paper artifacts due to new statutory and regulatory requirements has resulted in the rise of manual effort for information processing, adding overheads of execution time to the transaction under process. Iterative exchange of information and the validation of its adequacy and accuracy add further risks in terms of costs and delays.

TCS Intelligent Digital Extraction Suite assists organizations in automating information extraction from documents, handling the changes in document structures seamlessly, provisioning for managing the exceptions, and providing inputs to the model for quality improvement. The platform helps businesses render superior information accuracy and reduce transaction time by eliminating the need for manual intervention to zero or to only a single loop check, resulting in faster TAT and increased visibility to the current state of the request. By eliminating additional costs of iterative information processing and the cost of transfer, the solution increases customer satisfaction and helps potential business retention and growth.

Solution

TCS Intelligent Digital Extraction Suite enhances the document processing and data extraction processes by offering a range of value features:

- **Image pre-processing:** Remove the noise on images using computer vision models and process scanned texts via OCR or ICR.
- **Document classification:** Identify the document type automatically leveraging vision based or text based technologies.
- **Information extraction:** Extract information from structured and unstructured texts automatically. Review the exceptions and recommend updates in the model for improved extraction without any code changes.
- **Container-based technology:** Deployment on client's Docker Swarm environment for container orchestration and acquiring scalability of resources based on demand.
- **Data and document comparison:** Compare extracted information and documents using fuzzy matching and Regex algorithm to highlight the key differences or classify documents by leveraging natural language and rule engine.
- **Photo and signature verification:** Prevent security breaches through automated photo and signature verification.

Information discovery from diverse document types & varied complexities critical for downstream processing and decision making. Leverages unsupervised approach for minimizing the need for large number of documents for training.

- **Computer Vision** models for boundary, noise, color, Ink Spill overs detection etc.
- **Machine Learning** models to handle the variation in the structure of documents and for classification purposes
- **NLP** techniques to read information from electronic unstructured documents (PDF, Excel, Word, Email, text)
- **Advanced neural techniques** for low resolution images
- **Multitude of machine learning techniques** for accurate information discovery
- Machine Learning, **fuzzy matching** and **Regex** algorithms for document comparison
- **OCR** for information extraction from images
- **Business Taxonomy** for confidence score

Core Features

-  Image Pre-processing
-  Information Extraction From Structured & Un-structured Documents
-  Document Classification & Redaction
-  Data & Document Comparison, Intelligent Field Mapping
-  Photo, Signature, Information Verification
-  Operational Dashboards & Confidence based Exception Handling

Enabling Features

-  Multi-page Continuation
-  Hand-written Forms (Beta)
-  Signature Identification & Verification
-  Tables with border
-  Tables without border
-  Checkbox, Radio buttons, Graphs / Charts
-  Bar code Reading
-  Logo Identification
-  Workflow & Exception Handling
-  Entity Identification
-  110+ Languages
-  Page Location & Confidence Scores
-  Rule Engine
-  DMS / File System Connectors
-  API enabled, Containerized, SaaS model

Reduced Processing Time | Increased Automation | Reduced Cost of Operations | Improved Customer Experience

TCS Intelligent Digital Extraction Suite

Benefits

TCS Intelligent Digital Extraction Suite (TIDES) provides a range of tangible benefits to enterprises globally:

- **Increased processing speed:** Retrieve information of interest using techniques such as heuristics data extraction, NLP, topic modeling and machine learning, and compare extracted information based on business rules
- **Hybrid approach to data extraction:** Leverage hybrid approaches like key value pair approach and context-based extraction for optimal results
- **Reduced cost of operations:** Reduce manual intervention and enable employees to provide improved customer service or be redeployed to another location
- **Better decisions:** Better accuracy and data capture rate, make improved business decisions by validating extracted information through integration with business taxonomy to achieve a higher confidence score
- **Reduced risk of regulatory breaches:** Reduce the risk of document errors or loss

The TCS Advantage

A partnership with TCS allows you to take advantage of a range of key differentiators:

- **Domain depth and expertise:** Our wide portfolio of services and our exposure to almost all BFSI service areas allow us to develop the business taxonomy comprehensively and deliver value to our customers at a high rate.
- **IT-BPS synergy:** Our unique position to understand and use a practitioner's approach to build and conceptualize the solution helps us understand needs of our customers. While first-hand experience with operation participants has helped us take the usability perspective on paper digitalization. Depth of technology helps us create superior solutions using cutting edge and futuristic technology to automate business processes.
- **Delivery excellence:** By consistently meeting the timeliness and quality objectives, we help enterprises achieve the end objective of processing the information with minimal cost and maximum efficiency to deliver a seamless experience to the customers.
- **Analytics and insights:** We have focused analytics and insight competencies in predictive analytics, marketing analytics, and campaign management. With services in product pricing strategies, development of acquisition and behavioral scorecards, and identification of preferred customer channels, we help you extract intelligence from data and digitize the document processing and data extraction processes.

Contact

Visit the <https://www.tcs.com/banking-financial-services> page on <https://www.tcs.com>

Email: bfsi.marketing@tcs.com

About Tata Consultancy Services Ltd (TCS)

Tata Consultancy Services is a purpose-led transformation partner to many of the world's largest businesses. For more than 50 years, it has been collaborating with clients and communities to build a greater future through innovation and collective knowledge. TCS offers an integrated portfolio of cognitive powered business, technology, and engineering services and solutions. The company's 469,000 consultants in 46 countries help empower individuals, enterprises, and societies to build on belief.

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