

Solution Brief

AI Inspection
Intelligent Document Processing



Empowering Data-Driven Decision Making with the AmyGB.ai VisionERA Intelligent Document Processing Platform

AmyGB.ai VisionERA, powered by Intel® processors and optimized with the OpenVINO™ Toolkit, enables businesses to decipher critical information from documents faster and more accurately.



About AmyGB.ai

AmyGB.ai is an AI-focused research company that has always believed in building products that solve real world problems using advanced technologies and AI algorithms to foster accurate, consistent, and fast results.

New Opportunities with Intelligent Document Processing (IDP)

In today's data-dense environments, businesses can receive thousands of documents a day from a wide variety of sources, like email and post, and in multiple formats from PDFs, to images, to paper forms. Much of this documented information is messy and unstructured, meaning that the information cannot be mapped to a predefined structure such as a data table or a relational database.¹

An estimated 80% of a typical enterprise's data is hidden, known as 'dark data', in large part due to its unstructured or semi-structured nature. As a result, businesses continue to underutilize important information as it remains inaccessible and difficult to process.² Traditional methods of data processing are time-consuming and resource-intensive, requiring employees to manually filter through mass amounts of unstructured data, leading to processing delays and higher costs. This also introduces a layer of vulnerability to businesses with the added risk of unreliable, inconsistent, and erroneous data extraction and entry by human operators.

Dark data contains important insights, and it is critical that businesses are given the tools to overcome these challenges and extract insights from their unstructured data, quickly and accurately, to improve customer experiences, automate end-to-end processes, save operational costs, and help improve their business models.

That is where IDP-based solutions like VisionERA can help. IDP solutions address these digitization demands by automatically identifying unstructured data through the support of advanced AI deep learning, machine learning, and computer vision technologies.

The AmyGB.ai platform enables businesses to convert their messy data into usable, structured formats ready for processing. VisionERA not only recognizes and captures content but also groups and extracts data for simpler management of documents to drive strategic and proactive data-driven decision-making.

The VisionERA Platform – Automatically Process Unstructured Data to Streamline Business Operations

AmyGB.ai created the VisionERA platform to help customers automate the data extraction and verification process of documents, simplifying data extraction to decipher critical insights. The platform automatically recognizes and extracts valuable data from diverse documents like scanned forms, invoices, PDF files, emails, etc., and transforms it into the desired format. VisionERA can perform data processing and analysis on any kind of document through customizable document selection and workflow setups that can be easily molded to customer requirements.

Designed using multiple advanced proprietary technologies such as artificial intelligence (AI), machine learning (ML), natural language processing (NLP), and computer vision, the cloud-native platform continuously learns and improves with each iteration to help cater to business needs more effectively. Additionally, the platform provides useful KPIs using smart insights boards that provide significant value to a wide variety of industries such as Healthcare, Insurance, Logistics, Retail, and Financial Services.

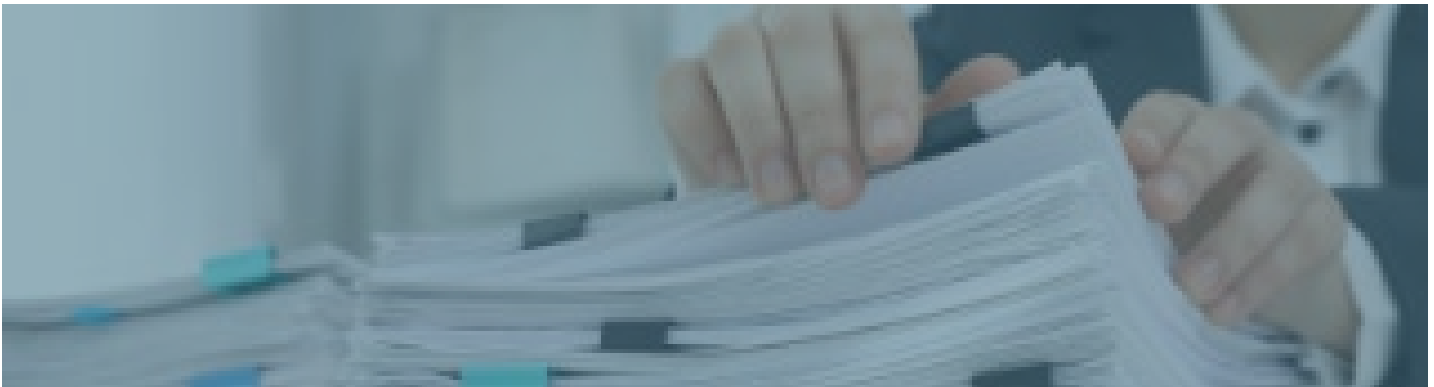
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Thanks to the brilliant IDP platform they have, we now see more than 60 percent of regular workload passing through new automation. As our relationship with team AmyGB.ai matures, we are setting more milestones to achieve together in several other areas and they will be our first choice now.

– Writers Corp, CTO

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With efficiency and accuracy at the forefront of data processing, the solution helps extract critical information from documents faster and more accurately so there is no loss of important information or a backlog of documents to be processed. Additionally, insights provided by VisionERA help businesses stay informed of any necessary changes in the organization to improve customer and administrator experiences.



How VisionERA Works

VisionERA offers a plug-and-play software solution that integrates into customers' document processing hardware like scanners and uses AI technologies to scan and extract data from paper documents. It is also capable of ingesting online documents like word, PDF, or excel files. Built on Intel® Xeon® Processors, VisionERA optimizes its functions utilizing Intel® Distribution of OpenVINO™ Toolkit, to carry out pre-processing, data extraction, and post-processing of documents. The capabilities provided by Intel technologies help VisionERA successfully pre-train AI models for workloads with increased speed and high performance.

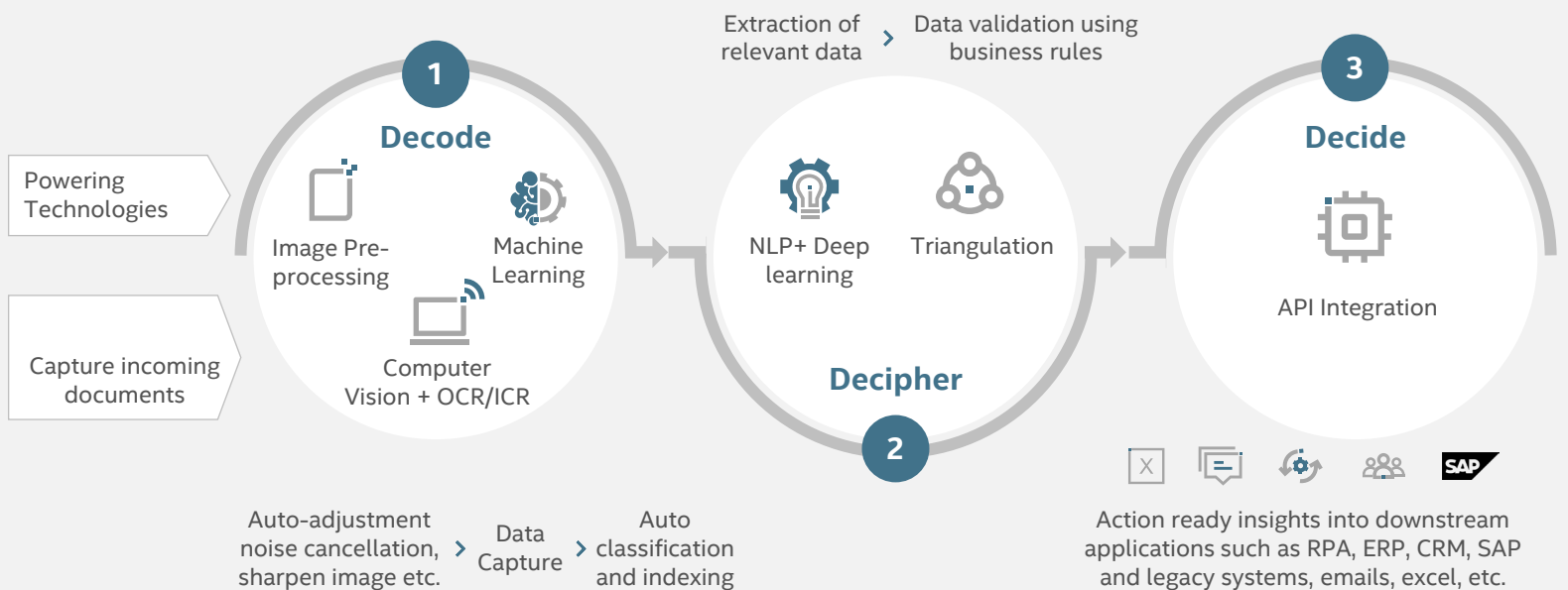
VisionERA starts by implementing AI code into existing edge devices. Once integrated, the data is captured and sent to a cluster of platform servers. The servers begin operations by automatically classifying documents into different categories to help determine the correct extraction technology and workflow route for a particular document.

Data is then extracted from their classified content groups using trained AI algorithms, including computer vision technologies like OCR to help extract text from scanned documents and images, and NLP to extract hand-written data. Data is not only extracted, but also defined by the type of data, like numbers, dates, names, etc.

The extracted and defined data is then validated through pre-defined logical algorithms, and robotic process automation to further enhance the level of validation and automatically pass data into relevant workstreams.

Post-processing, all the data is stored on a database where failed data use cases are flagged for discrepancies from the AI model. Manual review and verification can occur to help certify new AI model requirements to help ensure compliance with regulations and quality control. The accumulation of this data feedback constantly returns to the edge devices to re-train and update the AI model to improve in classification and verification accuracy as the solution continues to process documents.

IDP



Intel Solution Components

Intel® Distribution of OpenVINO™ Toolkit: The Open Visual Inference and Neural Network Optimization Toolkit enables developers to build and optimize AI-based computer vision models on Intel® hardware and makes it simple to adopt and maintain code. Developers can take advantage of existing Intel® processor architecture to quickly build, optimize, and scale deep learning and visual inference applications.

Intel® Xeon® Processors: Intel® Xeon® Scalable processors help process demanding workloads securely from edge to cloud with built-in AI acceleration and advanced security capabilities.

Industry Example Applications



Insurance

Automatically process new customer onboarding documents, and automate email responses, to address customer's needs faster.

- Client Onboarding application
- Supporting documentation
- Medical exam questionnaires
- Claims processing Documents
- Hospital Bills and Discharge summaries
- Handwritten ECS Mandate forms
- Mailroom automation
- E-mail response management
- Closed loop customer communication through omni-channel platforms



Healthcare

From patient records to invoice processing, help improve patient care through better management of physician and operations data.

- Claims Processing
- Medical coding
- MER Analysis
- Digitization of health records
- Hospital Information System processes
- Management of clinical trials



Logistics

Extract business ready information from documents to improve shipping visibility without any delays.

- Logistics paperwork
- ATM Receipts in Cash Management
- Bills of Lading
- Customs Documents
- Packing Lists



Banking/Financial Services

Automate mundane administrative processes with quick accurate turnarounds to promote business growth.

- Billing & Invoicing processes
- Lending & Mortgage Processing
- Account Closure
- Account Opening
- Financial Report Consolidation
- Cost Allocation
- Inventory Reconciliation
- Balance Sheet Account Reconciliation
- Variance Analysis
- E-mail response management
- Closed loop customer communication through omni-channel platforms reformat

Key End Customer Benefits

Optimize Operations and Reduce Costs

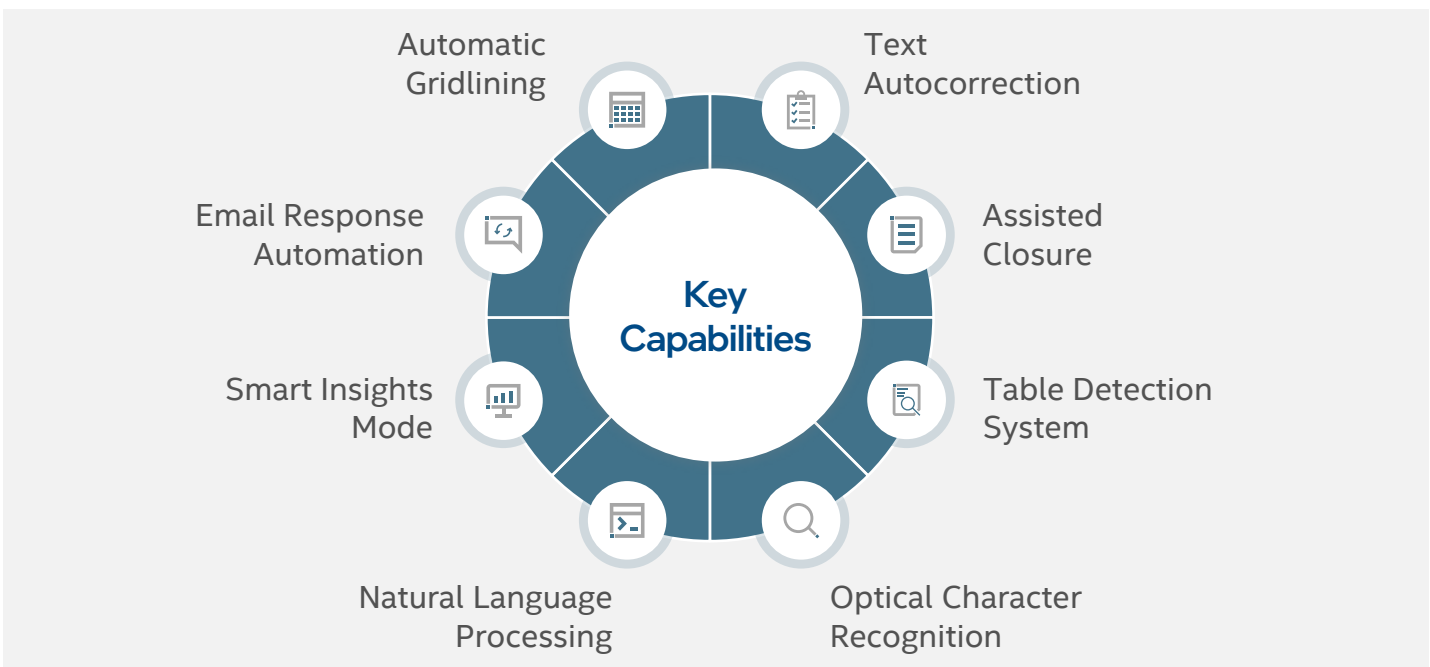
Traditionally, businesses require human resources to manually review documents, extract data, and then process it. With Intelligent Automation, the entire process is completed in seconds with multiple documents being processed simultaneously. VisionERA requires no manual human intervention, which is far less time intensive, and reduces costs by eliminating the need to hire workers to perform the same document processing tasks. In conjunction, businesses can perform more consistent, error-free document processing, which in turn, speeds up operational processes and provides the opportunity for workers to devote their time towards more valuable tasks.

Scale and Customize Data Extraction Features to Meet Business Needs

Because VisionERA can process any type of document through its plug and play functionality, the solution can be extended across all departments and workflows that involve data extraction and processing. VisionERA offers customers the ability to customize the drag-and-drop features and workflow mapping on to a particular database so that the reconciliation of data is sent across the system in the customer's desired format. The ability to simply scale the solution and the flexibility to customize workflows and integrate with specific databases helps businesses optimize their workflows so that they can automate a plethora of tasks across verticals or industry-specific use cases simultaneously.

Gather Better Business Insights with Improved Accuracy in Data Processing

The use of smart technologies like AI and ML enables customers to adapt to new businesses challenges with a continuous feedback learning mechanism. By feeding the software system with documents on an ongoing basis, the AI algorithms continue to automatically learn on the backend, so that a higher level of accuracy can be achieved for future iterations. Additionally, VisionERA comes loaded with a smart recommendation engine for better sampling of feedback files along with table detection capabilities to organize the documents data accurately based on its formatting prerequisites. This ability to increase accuracy in data extraction execution ultimately enables end users to more easily obtain valuable, action-ready insights to streamline business operations and make better, data-driven decisions.



Writer Corporation: A Case Study

Writer Corporation is a leading service provider responsible for physical movement of cash in ATM, banks, and retail markets of India.

The client wanted to improve efficiency in processing ATM transactions while mitigating the risk of human error as it posed a high threat of financial repercussions to the company. VisionERA helped the company automatically reconcile ATM transaction data with a quicker turnaround time and eliminate the need for human intervention for greater accuracy. VisionERA's proprietary machine learning and natural language processing technology helped classify documents based on pre-trained algorithms so that Writer Corp could easily and quickly view and comprehend business data and insights.



Key Outcomes



VisionERA helped the customer save time and effort for the client, **processing more than 1.6 million documents each year.**



In 3 months, VisionERA **reduced the client's operational workload with a high-level of accuracy** in comparison to manual data validation.



Improved scale of operations with the potential to process more documents in the future.

Solution Summary

It is evident that businesses that rely on data can improve processes by implementing an IDP solution. Manual data entry processes are laborious, tedious, and highly error-prone, hindering the performance of services and influencing the bottom line of any business.

With the AmyGB.ai VisionERA solution, data can easily be categorized, extracted, validated, and directed to the right workflow, alleviating employees from the responsibility of processing mundane paperwork. VisionERA can help customers increase cost savings, improve consistency, speed and accuracy of data extraction and analysis, and unlock valuable business insights to aid future business growth.

Learn More

- [Intel® Xeon® Scalable Processors Product Page](#)
- [Intel® Distribution of OpenVINO™ Toolkit Product Page](#)
- [AmyGB.ai Website](#)
- [VisionERA Product Page](#)
- [Book a Demo](#)



1. <https://treehousetechgroup.com/8-examples-of-unstructured-data/> Treehouse Technology Group, 2022
2. <https://www.automationanywhere.com/company/blog/product-insights/can-cognitive-rpa-help-you-emerge-from-the-age-of-dark-data> Automation Anywhere, November 2017

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