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GENERATIVE AI

REVOLUTIONIZING INPUT MANAGEMENT FOR FINANCIAL SERVICES AND INSURANCE ORGANIZATIONS

A whitepaper on efficient document processing at scale by Deloitte and Google Cloud



The financial services industry faces a dual challenge: rising customer expectations for seamless, personalized digital experiences, and increasing operational costs, as banks and insurers struggle with inefficient legacy systems and manual processes. Shifting consumer trends compound the issue. Customers are moving away from traditional channels toward digital methods like email, chat, and voice, overwhelming existing automation systems that struggle with the surge in unstructured data.

Generative AI, a cutting-edge category of AI algorithms, has emerged as a potential game-changer, poised to revolutionize how banks and insurance companies manage and process information in input management in all its different forms. This whitepaper dives into the transformative potential of generative AI for reshaping input management, particularly the classification, extraction and post-processing of millions of bank and insurance documents every year.

Unlike traditional AI systems that operate based on predefined rules and decision trees, generative AI models possess the remarkable ability to learn from existing data and understand context, making it the must-have solution for any process with varying layouts, formats, languages or even images.

Case study | End-to-End Mortgage Loan Processing

A leading bank in Poland leverages Deloitte's AI capabilities to automate end-to-end processing of mortgage loan application, decision and disbursement. AI supports handling mortgage loan-related documents, including applications, attachments, and declarations. The solution supports inbound document processing and seamless transfer of data into credit decisioning systems, enabling higher levels of automation across mortgage lending operations.

AI Impact

14 days → 1 day

Faster credit decision-making
time-to-yes from 14 days to 1 day.

3x

Additional capacity to grow sales volumes
3x more loans granted

60%

Less manual workload
60% tasks automated

Why you should bridge the efficiency gap with Generative AI to overcome the market factors driving automation

• Demographic shifts and rising labor costs:

Declining birth rates in developed countries are leading to shrinking and aging populations, creating potential labor shortages and increased labor costs. As labor becomes scarcer and more expensive, businesses are turning to automation to optimize costs and remain competitive. Especially in input management, insurance companies and banks rely heavily on internal and external “humans-in-the-loop”, where existing technology does not inspire confidence in processing. Automation helps mitigate these demographic challenges by augmenting the human workforce with AI-powered solutions.

• Demand for agility and scalability:

Rapid technological change and evolving customer expectations demand agile and scalable business operations. Automation enables businesses to quickly adapt to market changes, and efficiently scale operations and meet customer needs, all crucial to input management. Insurance companies process invoices from thousands of different sources, each with its own layout, length, and sometimes with pictures, checkboxes and other complexities.

• Need for increased efficiency and productivity:

Today's competitive landscape requires constant striving for increased efficiency and productivity. Automation helps optimize workflows, reduce manual errors, and streamline operations for cost savings and improved output. Particularly in recent years, when the combined ratio of insurers has significantly increased and claim processes have surpassed existing capacities, automation must form part of the response.

Shift in data strategy: from insight quantity to quality

Big data was once considered the key to unlocking business insights, but most applications don't require massive datasets. Effective automation focuses on collecting and analyzing relevant data, rather than indiscriminately gathering every piece of available information. This tar-

geted approach simplifies data management, reduces storage costs, and extracts actionable insights more efficiently. The emphasis now is on data quality, not quantity. Advanced data management systems with traditional architectures are experiencing a resurgence as businesses prioritize efficient data processing and analysis over sheer data volume.



Case study | Insurance Claims & Complaints Automation

Deloitte implemented an AI-powered solution for an insurance company to automate the handling of documents related to claims and complaints. The system supports intake of over 2000 types of documents and conducts classification, data extraction, and intelligent case routing, while enabling human involvement in cases requiring additional verification and quality control.

AI Impact

10x
reduced manual workload
10x documents/
FTE handled

34 min → 9sec
shorter case handling times
34 minutes to
9 seconds

enabled operational scaling without increasing resource requirements



Intelligent document processing based on Google Cloud Document AI facilitates back-office efficiency

The adaptability of generative AI in today's dynamic business environment, where agility and responsiveness reign, is crucial. Generative AI can automate complex tasks, personalize customer experiences, and create new content, unlocking unprecedented levels of efficiency and productivity. Generative AI moreover has the potential to address the growing skills gap by automating tasks that previously required specialized expertise, freeing up human workers to focus on high-value activities that demand creativity, problem-solving, and strategic thinking.

Applied to back-office issues and without regard to changing layouts or even entities extracted without prior training or labeling, the ability and flexibility of large language models (LLMs) to understand complex documents frees up a lot of manpower. The time previously invested in labeling multiple examples per document layout can now be used to optimize other back-office processes.

Confidence is key to success

Many incumbent technologies and new market players respond by “attaching” an LLM to any process. While promising, this simple approach fails to recognize the functionality

of input management, which builds on clear processes with humans-in-the-loop when classification or extraction does not lead to a satisfactory confidence score in a specific input. The confidence score represents a degree of certainty that an AI model assigns to its predictions based on provided data. Google Cloud's Document AI, drawing from Google's long-established leadership in LLM development, incorporates confidence scores into its generative classification and extraction, thereby supporting effective input management with human oversight.

Ready-to-use platform with flexibility to adapt

The input-management technology market is currently split into two extremes. One is the new technology provided by a simple

LLM or OCR (Optical Character Recognition) as a single piece of a puzzle when banks and insurance companies need extensive project work over months or even years for a stable and workable solution.

On the other hand, there are experienced “off-the-shelf” solution providers who lack the flexibility to adapt to companies that would like to leverage their solutions. The financial services and insurance market is too mature to flexibly adapt to technology, and demand solution providers configure it to existing processes. The answer is PaaS (platform as a service). Deloitte and Google Cloud have jointly invested to build this platform around Document AI for input management. It is flexible enough to adapt to any organization and ready to use within weeks.

GenAI-driven KYC | Beneficial Ownership Finder

One of the largest banks in Poland uses Deloitte's Beneficial Ownership Finder solution to analyze ownership structures and support KYC processes involving complex and multilingual data. The solution improves compliance processes and increases efficiency in beneficial ownership analysis.

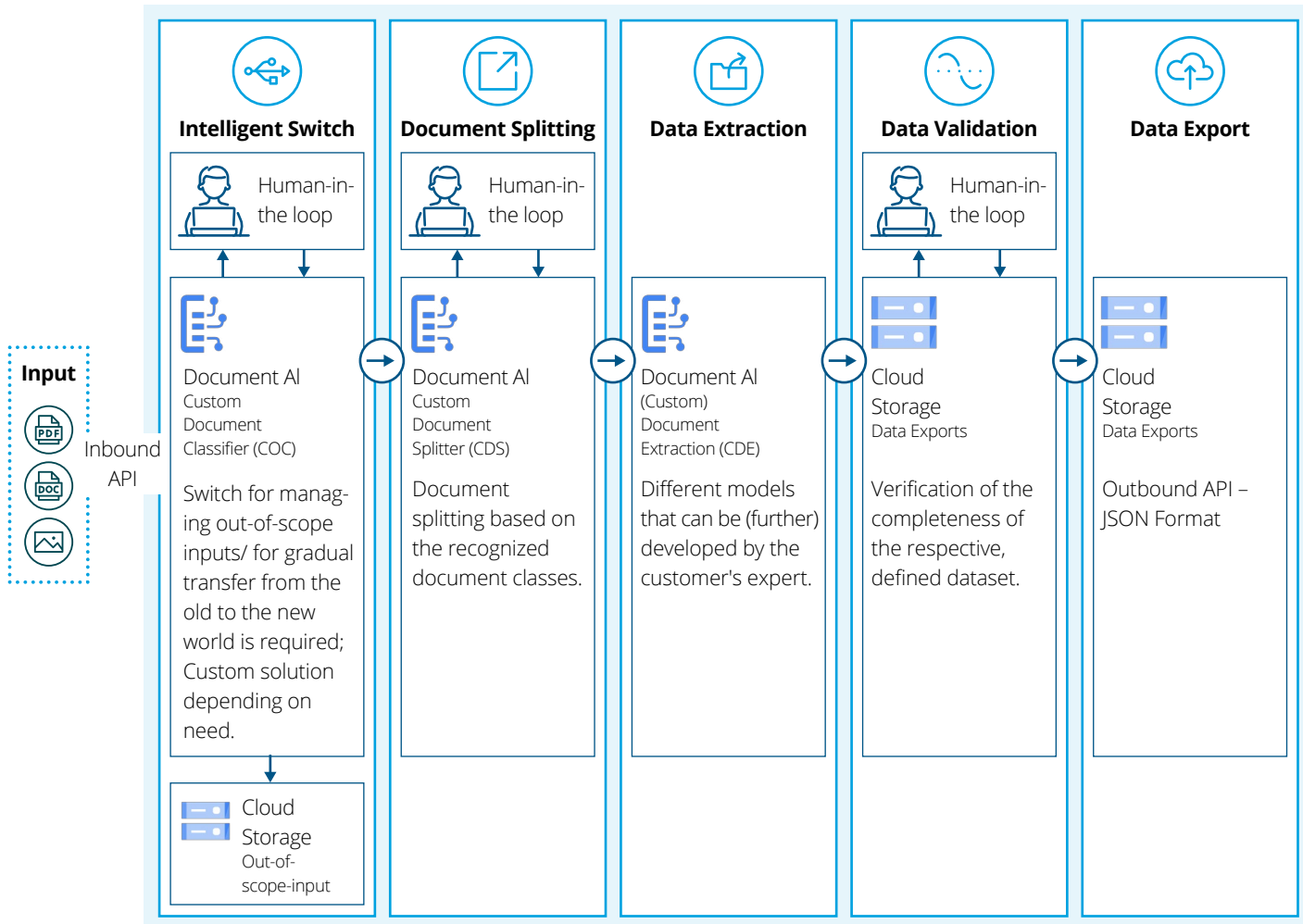
AI Impact

50%
reduction in errors

5x
increase in handled case volumes

80%
reduction in processing time

Fig. 1 – Google Cloud Document AI: End-to-End Document Processing Flow



User-friendly design, shifting from IT to business unit

Input management bundles much of human resources into IT, whereas the professional know-how of what needs to be classified and extracted remains within the business departments. Deloitte and Google aim to empower business units to take direct part in input management. A simple UI, uptraining of models without any line of code, and the ability of business units to directly train new documents are key to countering the aging workforce and scarce IT resources.

End-to-end straight-through processing with high quality results and accuracy

Google Cloud Document AI enables straight-through processing (STP) by automating the entire document lifecycle, from data extraction and classification to validation

and integration with downstream systems. This eliminates manual handoffs, reduces processing from days to near real-time, and minimizes errors arising from manual data

handling, resulting in higher quality data, improved accuracy, and increased efficiency across the entire back-office workflow.

Unified Document Handling | One Intake, Many Processes

Financial institutions across Central Europe use AI-enabled document processing solutions implemented with Deloitte to support operational areas including complaints handling, credit-related documentation, debt collection, and legal processes. Documents are processed and leveraged across multiple stages of business workflows, reducing duplication and improving consistency across the organization.

AI Impact

90%
Up to 90% reduction in manual workload

99%
routing accuracy

One & Done
reduced duplicate document classification across multiple departments

Automated workflows apply concepts cross-channel, from mail to chat- and voicebots, for a multi-channel customer experience

Google Cloud Document AI integrates with synchronized communication channels, such as chat and voice, through the Google Customer Engagement Suite (formerly Contact Center AI) to scale automated workflows with a multi-channel approach that integrates seamlessly into various customer touchpoints, including traditional channels like mail, and digital channels like email, chatbots and voicebots. This seamless multi-channel integration ensures the customer experience remains both consistent and personalized across all touchpoints.

Omnichannel marketing automation and leveraged conversational AI can personalize customer interactions, automate responses, and route inquiries to ensure a seamless and engaging customer journey. This requires a robust workflow management system that can orchestrate complex processes across multiple channels and integrate with various back-end systems. Thinking cross-channel ensures a unified customer experience, regardless of how customers choose to interact with your business.

We don't know what we don't know

“Deloitte's experience in Google Cloud Document AI implementations consistently resulted in tangible efficiency gains for our FSI clients. The platform's ease of use, enhanced by its LLM integration, allows business users to customize solutions and drive enterprise-wide adoption. As Google continues to innovate in areas like generative AI, our partnership ensures banks and insurers remain at the forefront of technological change, building new customer interaction models and unlocking unprecedented value.”

Nicole Tranker Liegl, Partner Intelligent Automation, Deloitte

Learnings & Proof Points from the industry: Large Financial Services companies achieve above 80% automation for unstructured customer communication



The challenge

Banks & insurance companies are striving to streamline client request processes (ranging from address changes to claims processing to loan applications) without having to overhaul their backend systems. In doing so, they aim to replace unsustainable manual workflows involving physical mail sorting & scanning.



The solution

Deloitte implemented centralized solutions powered by Google Cloud Document AI and Google Cloud Gemini. Banks & insurance companies used Generative AI-driven data extraction to reach over 80% straight-through processing (STP) of unstructured client input via mail and email. A microservices architecture ensured seamless integration with core systems, while a human-in-the-loop mechanism handled exceptions.



The impact

- >80% STP for fully unstructured input
- >60% STP for end-to-end automation—initial processes without human interaction
- No backend system rebuilds required

Clients leveraged Google Cloud Document AI to transform its input management, unlocking automation at scale while enhancing customer experience.

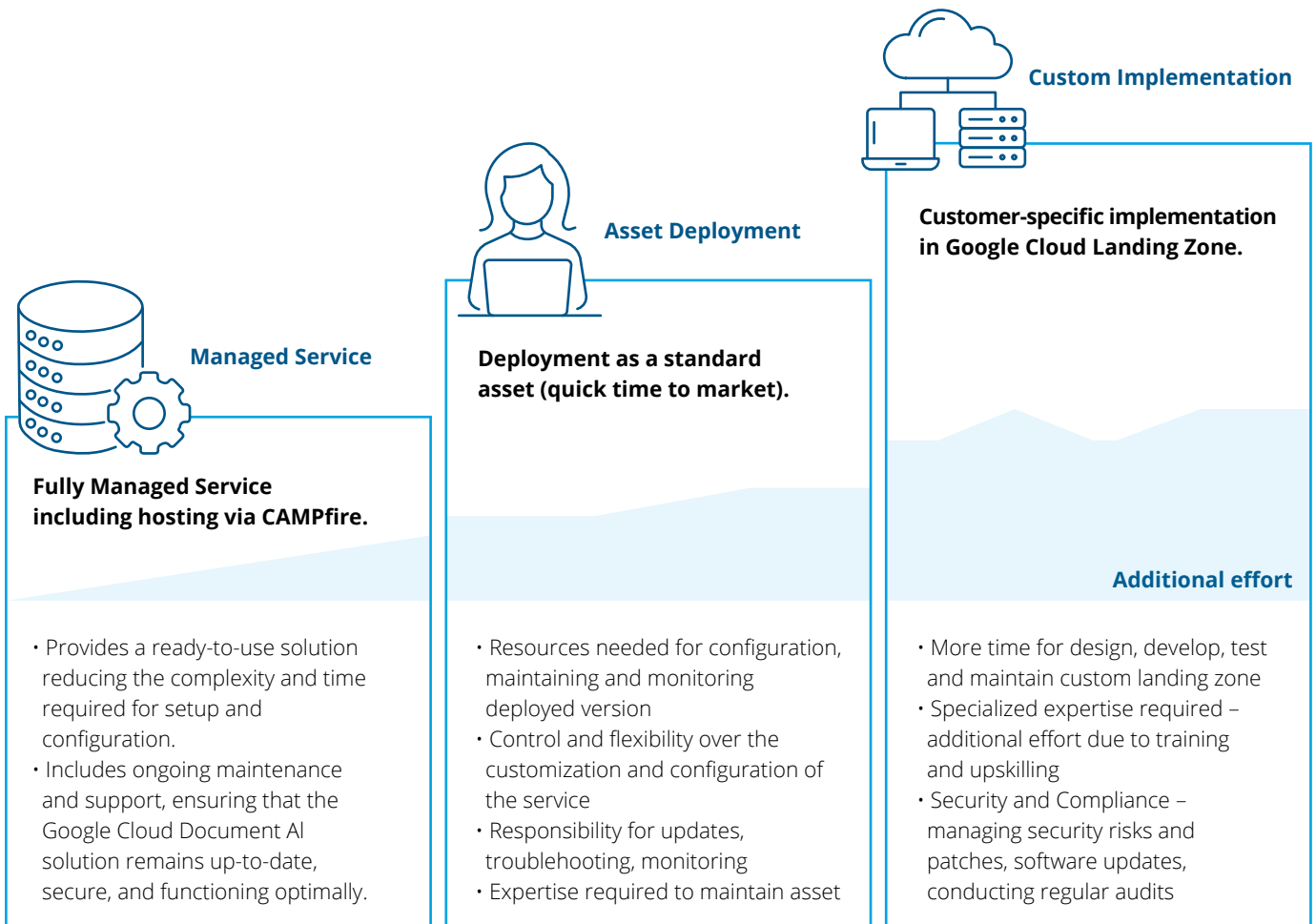


Deloitte and Google’s capabilities, solution and implementation meet your needs with proven industry success

Three options cater to different industry needs:

- Deloitte Managed Service:** Deloitte’s managed service option for Google Cloud Document AI is a turnkey solution that includes implementation, maintenance, support, and ongoing optimization, all leveraging Deloitte’s deep expertise in cloud solutions, AI, and business process transformation. It frees up internal resources to focus on core business objectives, and Deloitte can provide it through its own asset-management platform, [Deloitte CAMPfire](#).
- Asset deployment:** Customers deploy the Deloitte Asset into their own Google Cloud Landing Zone to get a jumpstart into GenAI-enabled process automation. This approach combines running the application in your environment with the benefits of a solution built from the ground up, and customization is also in-scope.
- Custom implementation:** Businesses with existing Google Cloud infrastructure and in-house technical expertise can opt for custom implementation, which provides greater control but requires dedicated resources for development, maintenance, and ongoing support.

Fig. 2 – Google Document AI Implementation with Deloitte: From Managed Service to Custom Implementation





Revolutionize your input management with Deloitte powered by Google Cloud Document AI

The financial services and insurance industries are facing unprecedented challenges, from rising operational costs to increasing customer demands for seamless digital experiences. Our joint solution addresses these challenges head-on with a robust, scalable, and flexible solution that transforms input management processes. Leveraging generative AI and Google Cloud's Document AI can automate workflows, reduce manual interventions, and achieve straight-through processing with unparalleled accuracy.

Our solution goes beyond traditional input management technology to combine the adaptability of generative AI with the reliability of a platform-as-a-service (PaaS) model. Business units train models directly, without coding, for faster implementation and reduced dependency on IT resources. Whether you need managed service, asset deployment, or custom implementation, Deloitte together with Google Cloud will meet your unique needs.

Take the next step

Generative AI is not just a technological advancement; it's a transformative force that will redefine how business manages input and customer interaction. Partner with Deloitte and Google Cloud to unlock automation at scale, enhance customer experiences, and future-proof your operations. Act now and embrace the future of input management to stay ahead in a rapidly evolving environment.

Let us help you navigate the complexities of input management and achieve operational excellence.

End-to-End automation of used vehicle remarketing

Leading European automotive financial services provider is using advanced AI/ GenAI solution to analyze vehicle documentation and photographs to assess condition and market readiness following the end of the leasing period. Advanced AI engine processes input of tens of thousands market offers with prices of comparable vehicles to support pricing decisions in order to increase profitability based on large volumes of market data.

AI Impact

2%
increase in prices

90%
shorter time to market

97%
Improved quality of car analyses with 97% first time correct analyses

Reach out today to explore how our joint solution can empower your organization to thrive in the digital age.

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