

# AROUND THE WORLD IN 90 DAYS: BASF AUTOMATES THE GLOBAL P2P PROCESS IN THE CLOUD

BASF shortens processing time for 3.5 million incoming invoices p.a. by 50 percent and reduces effort by 40 FTE with state-of-the-art AI and highly scalable cloud services. Cloud service and agile project approach enable the conversion of over 300 company codes worldwide in just a few weeks. smart INVOICE excels in detailed document reading, excellent data quality, deep validation, and low maintenance effort.



**BASF**  
We create chemistry

**CUSTOMER**  
BASF

**COUNTRY**  
worldwide

**HIGHLIGHT**  
Global processing of 3.5 million invoices per year with cloud service

**PRODUCT**  
smart INVOICE

**AN ENORMOUS CHALLENGE:  
OVER 3.5 MILLION INVOICES, MORE THAN 300  
COMPANY CODES, MORE THAN 80 COUNTRIES**

Creating chemistry for a sustainable future – that's what BASF stands for. Every day, more than 111,000 employees in the BASF group contribute to the success of their customers from industries all over the world. To this end, BASF purchases products and services costing over 30 billion euros worldwide every year – from pipelines to company cars, from freight containers to airline tickets, from naphtha to ethanol.

It's easy to see that the sheer volume of incoming invoices is enormous, with around 70,000 suppliers that the group works with globally. Although electronic data interchange (EDI) is the preferred format for invoice processing with suppliers, many invoices still reach the company as PDFs or paper documents. Each year, the company receives around 3.5 million documents with a total volume of approximately 10 million pages from more than 80 countries.

When the contract for the previous solution for data extraction of incoming invoices expired, BASF had the opportunity to look for a new, more powerful solution to automate the processing of incoming invoices worldwide to a much greater extent.

The company had received a "World-Class" award for process efficiency and effectiveness – in a bench-

## CHALLENGES FOR BASF

- ✓ Holistic increase in the degree of automation across the entire process chain
- ✓ Around 3.5 million incoming invoices p.a. in PDF or paper format
- ✓ Many different languages and fonts, several calendar systems
- ✓ Arbitrary layouts, poor paper quality, handwritten additions
- ✓ Significant increase in the breadth and quality of data read and validated
- ✓ Touchless document reading and auto-posting in SAP as a goal
- ✓ Maximum one-touch for cases to be manually reworked

marking of international P2P/finance processes by the Hackett Group. Now the aim was to improve this by automating even further.

### A CLEAR OBJECTIVE LED THEM TO INSIDERS TECHNOLOGIES

The new global solution was to use artificial intelligence for the best possible data extraction and be available as a cloud service for rapid rollout and easy scaling. The central goal was a holistic increase in the degree of automation across the entire process chain.

To achieve this, the first step was to automate touchless document reading, with a wide range of data read and validated. The quality of this data was to form the basis for automated posting in SAP via dark processing.

An extensive market review and tender led BASF to Insiders Technologies - one of the leading companies in intelligent document analysis and process automation – and the smart INVOICE solution as a cloud service.

Based on deep application and AI know-how as well as intelligent learning mechanisms, smart INVOICE works reliably and accurately - independent of the delivered layout and without complex rule sets. With the volume of suppliers and invoices and various data formats and layouts, this layout independence was crucial to BASF.

In the proof-of-concept, smart INVOICE was able to impress BASF with the best recognition performance, along with the capability of the Insiders Technologies team themselves.

The solution's user-friendliness was also very persuasive. All relevant information is quickly visible at a glance and enabled approximately 400 users in the group's service hubs in Berlin, Montevideo, and Kuala Lumpur to quickly familiarize themselves with the system.

BASF deliberately did not outsource its service hubs and expected the new solution to provide the best possible support for employees to achieve maximum efficiency. In addition, the data validation concept scored

*„Our process was already widely optimized in terms of its flow. It was obvious that to increase efficiency further, we would have to rely on new technologies from artificial intelligence to achieve greater automation. The intelligent cloud services from Insiders Technologies – specifically smart INVOICE for invoice processing – quickly convinced us with their innovative concept and outstanding performance.“*

RITA LAMPASONA-HORNUNG  
HEAD OF ACCOUNTS PAYABLE EMEA, BASF



well – the information read could be easily reconciled, both within itself and with BASF's internal data – ensuring a higher level of touchless processing.

BASF was also impressed by the versatility of Insiders Technologies' smart products and services, which can also be used for many other use cases in the order-2-cash and purchase-2-pay process.

### A PAR FORCE RIDE

After the decision in favor of Insiders Technologies at the end of 2018, the conception, planning, implementation, and global rollout of the Insiders solution had to be fully completed within just ten months, as BASF had set a fixed date of October 15 in order to meet their annual financial statements deadline.

By this date, more than 200 company codes out of a total of over 300 existing codes had to be transferred to the new solution. In addition, the contract for the old solution was expiring - so there was no way back.

With this project, the global corporation broke new ground four times over: It was the first time AI had been used for a P2P project, the first time a complete cloud solution with integration to ERP was used, and the first time an external application had access to master data and order information.

The tight schedule also required breaking new ground in project management, and so an agile project method was also used for the first time in a project of this scale to align the many tasks.

The cloud service offered significant speed advantages in implementation due to its rapid configurability and broad scalability.

It created the necessary confidence in a project of such sensitivity, and the Insiders cloud development

*„In this project, we had to break new ground in many respects to be successful in the tight timeframe. For this, we were looking for a reliable partner and found one in Insiders Technologies. Here, technology know-how, commitment, and the will to achieve mutual success come together in the best possible way.“*

**WOLFGANG BACKHAUS**  
PROCESS EXPERT ACCOUNTS PAYABLE, BASF

and operation, as well as the German data center used for all three service hubs, are certified to ISO/IEC standard 27001.

### ARTIFICIAL INTELLIGENCE TAKES EFFICIENCY TO A NEW LEVEL

Complete and high-quality document reading - BASF expected no more and no less from smart INVOICE. In real terms, this means that a document must be read entirely without user involvement. Thanks to state-of-the-art AI, smart INVOICE reads significantly more fields than the previous solution. Today, more than 60 fields in the invoice header and over 20 fields at item level are recognized.

The solution can also check documents for internal plausibility – i.e., are the totals given correct, has the correct tax rate been selected, are all tax and regulatory requirements for the documents been met? In addition, smart INVOICE can automatically compare the



Image: BASF

*„Documents from 80 countries and over 300 company codes create an enormous complexity and range of challenges – especially since everything is also subject to constant change. Therefore, the possibilities for detailed analysis and optimization are essential. We also have immediate access to technical innovations with Insiders Technologies as a partner and smart INVOICE as a cloud service. This allows us to keep efficiency high and – where possible – continuously improve it.“*

KRISTINA DIEZ

EXPERT ACCOUNTS PAYABLE, BASF



Image: BASF

document data with master data from the ERP or the P2P process and perform further validations. The solution thus achieves fully automated recognition rates of 100% or just below – across a wide range of fields.

Documents with missing, illegible, inconsistent information are rejected for post-processing. For this purpose, users have access to an intuitive web application that marks in the document which values can be read and validated correctly and where questions remain. The validated data is then transferred to the SAP process for posting.

BASF's goal was to touch a document no more than once, if at all. If a user must intervene in the document reading, all data should be available afterward to automatically post it in SAP.

Thanks to smart INVOICE, the quality of the data transferred to SAP could significantly increase - an essential basis for fully automatic processing and the lowest possible error rate.

"It is essential always to keep the entire process chain in mind if you want to increase efficiency. It's not just the recognition rate for individual fields that is crucial, but also the bandwidth of the information read. Ultimately, you always must make a trade-off between touchless during document reading, auto-posting in SAP, and the error rate. With smart INVOICE, we can control this optimally", Dr. Katalin Velladics, Process Expert Accounts Payable at BASF, explains the holistic approach.

The cloud service enables maximum scalability and transaction-based, page-precise billing. For BASF, this means maximum flexibility, transparency, and independence from short-term load peaks or IT bottlenecks.

## CHALLENGES OF A GLOBAL SOLUTION

Automated invoice processing is used by BASF in more than 80 countries, covering a wide geographical range. Almost all the world's languages and different fonts - Arabic, Cyrillic or Asian – must be considered in OCR.

Documents sometimes use different calendar systems, as local suppliers in Japan and Taiwan, for example, do not use the usual Gregorian calendar. Other challenges that make reading difficult include very thin paper and dot-matrix printing and handwritten additions on a document. The enormous variety of formats and layouts can only be handled by a solution like smart INVOICE, which does not require layout-related information or rules for readout.

In addition, the processes applied for the different company codes had to be adapted for each country to the specifications of BASF and that of the respective countries. However, this presents no issue for the cloud solution as it does not require setting up a separate instance for each country.

## AROUND THE WORLD IN 90 DAYS IS ONLY POSSIBLE WITH AGILITY

BASF's three service hubs in Europe, Asia, and America were directly involved in the project. After the conceptual design, testing and planning, they were upgraded to the new solution in less than three months. Initially, well over 200 company codes were converted to smart INVOICE.

It is only possible to convert these quantities in just a few weeks by strongly parallelizing the process. In one week alone, 40 national companies were converted in parallel.

The introduction of smart INVOICE and the associated training took place in several waves parallel to the further expansion of the solution with new functions. This was the only way to meet the tight schedule. This agile approach also provided highly welcome feedback from users at an early stage. This agility had to be taken into account by the change management team with appropriate measures to introduce users to the agile approach.

A strong focus in the training sessions was, amongst other things, around how to communicate how the AI works, as this was also new territory for the users. Change management and training are a continuous process and fundamental at BASF.

Another building block for the success of this mammoth project was the extraordinary commitment of an interdisciplinary core team from BASF and Insiders Technologies - with 20 to 30 people who believed in the capability of the new solution and delivered maximum effort into driving the project forwards.

BASF's management was also fully supportive, with huge importance attached to the cooperation between the project team and the end-users - to familiarize the users with the new solution's functional capabilities and respond to their questions and requests.

#### **DETAILED PROCESS DATA ALLOWS CONTINUOUS OPTIMIZATION**

The smart ACT business analytics tool integrated into the solution is used intensively by BASF. In contrast to the old solution, it offers a wide range of information about how to use the solution and the process in various levels of detail. This makes it possible to improve the process, for the first time, in a continuous data-driven manner.

*„We would not have been able to implement this project so successfully without Insiders Technologies. The products are excellent, and the experts from Insiders Technologies are very technically skilled and know exactly what their product can do. We especially liked that they listened to us very carefully to understand our specific needs and requirements and implemented them.“*

**DR. KATALIN VELLADICS**

PROCESS EXPERT ACCOUNTS PAYABLE, BASF

## **BENEFITS FOR BASF**

- ✓ Worldwide introduction of the latest AI technology for document reading in the shortest time possible
- ✓ Higher quantity and quality of data read allows more automation
- ✓ Fewer errors and disruptions in downstream processes
- ✓ Significantly increased efficiency and much more fully automatic processing
- ✓ Process time for invoices reduced by more than 50%
- ✓ 40 FTE in effort saved and elimination of monotonous verification work
- ✓ Continuous monitoring and improvement of efficiency through detailed process data
- ✓ Highest scalability, flexibility, and cost transparency through cloud service

Thanks to the analysis capabilities of smart ACT, the values for critical parameters such as; average process runtime, touchless rate, or SAP auto-posting, which were already good after commissioning, were again significantly improved over the course of the last year.

#### **A GLOBAL SUCCESS STORY**

Today, around 400 employees at BASF work with the solution in the three service hubs worldwide. Document reading has been significantly improved in terms of the scope and quality of the data, which is reflected in a high proportion of data being fully automatically read and verified. This high quality also leads to a significantly improved ratio of documents with fully automatic posting in SAP.

Overall, the processing time of invoices could be more than halved, and the effort in the amount of 40 full-time equivalents could be saved through automation with AI. The department for document verification with its monotonous work could be completely restructured, and the employees reassigned to more value-add work tasks.

BASF is so convinced of the performance of Insiders Technologies' cloud services that it is already piloting other application areas in the P2P process, such as order confirmation processing.



Image: Insiders Technologies

## INSIDERS CLOUD: INTELLIGENCE SCALABLE, SECURE, PERFORMANT

The Insiders Cloud provides all Insiders products as flexible cloud services - easily individually configurable, secure and scalable as required. Across all industries, all documents - from invoices to sick notes - can be recognized and evaluated with the latest AI technologies. This means that all scenarios relating to input management and customer communication can be implemented without lengthy projects, extensive installations, and costly investments in IT infrastructure. Since 2017, the Insiders Cloud has been used successfully by many companies and organizations of various sizes and processes millions of pages per year. Development and operation are certified according to ISO/IEC standard 27001, as is the data center in Germany.

[insiders-technologies.com/en/platform/](https://insiders-technologies.com/en/platform/)

## ABOUT BASF

Chemistry for a sustainable future - that's what BASF stands for. BASF combines economic success with environmental protection and social responsibility. Around 111,000 employees in the BASF Group contribute to customers' success from almost all industries and in nearly every country globally. The portfolio comprises six segments: Chemicals, Materials, Industrial Solutions, Surface Technologies, Nutrition & Care, and Agricultural Solutions. BASF achieved global sales of €78.6 billion in 2021. BASF shares are traded on the Frankfurt Stock Exchange (BAS) and as American Depositary Receipts (BASFY) in the United States.

[www.basf.com](http://www.basf.com)

## ABOUT INSIDERS TECHNOLOGIES GMBH

Insiders Technologies is a leading technology company and market-established software provider for Cognitive Process Automation. More than 3,000 customers from various industries rely on Insiders' innovative solutions to optimize their document-centric business processes. Based in Kaiserslautern, Germany, it is the most successful spin-off of the German Research Center for Artificial Intelligence (DFKI). It has made it its mission to transform state-of-the-art AI into tangible customer benefits. Insiders Technologies use the latest deep learning technologies and software solutions to understand heterogeneous content, extract business-relevant information, automate transactions and shorten response times. In doing so, the technological pioneering spirit and agility guarantee continuous innovations and products on the pulse of time.

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