Business challenge

Despite developing methodical processes, recruiters at msg still faced manual methods when matching applicant CVs with open positions, which required significant investment of both time and resources.

Transformation

msg, a global IT service provider, is growing fast—really fast. To help it meet its aggressive recruitment targets, msg built Max, a bot powered by IBM® Watson® technology. Max answers candidates' job-related questions and empowers applicants to match their own curricula vitae (CV) to the most suitable open positions, supporting and accelerating the hiring process.

Christian Hertlein
Lead Consultant
msg

Results

Realizes double-digit increase in candidate-matching
with roles, leading to more successful interviews and contracts than before

Generates >20% more suitable applications
with intelligent, one-to-one CV matching capabilities

Speeds up the application process for job seekers
by reducing the number of CVs recruiters must manually review and match

msg

Filling open positions faster with Max, an AI-powered recruitment bot

msg is an independent, international group of companies with 8,000 employees around the world. msg systems is the core of the msg group. The group of companies offers a holistic service spectrum of creative, strategic consulting and intelligent, sustainable and value-added IT solutions for the following industries: automotive, financial services, food, insurance, life science and healthcare, manufacturing, public sector, telecommunications, travel and logistics, and utilities. msg is headquartered in Ismaning, Germany, and reported a record revenue of EUR 961 million in 2018.

"Watson Assistant doesn't require much training—it's incredibly intuitive."

—Christian Hertlein, Lead Consultant, msg

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Recruitment on a rapidly growing scale

Since 2016, msg has grown from 3,500 people to a workforce of 8,000 today. That level of expansion led to the eight-strong HR recruitment team having to fulfil hundreds of positions annually and manage an average of 1,000 applicants a month.

It's a complicated task, made even more complex as HR recruitment is centralized within the business. The process involves finding and placing qualified candidates in roles across the entire group of companies, which together offer a holistic service spectrum of creative, strategic consulting and intelligent, sustainable and value-added IT solutions.

Having built an excellent reputation as an industry specialist over the past 40 years, it is important for msg to maintain its position. It does so by recruiting people with appropriate expertise and precisely placing them in roles chosen from a wide variety of IT, consulting, entry-level and managerial positions across industries. These industries include automotive, financial services, food, insurance, life science and healthcare, manufacturing, public sector, telecommunications, travel and logistics, as well as utilities.

"We have a lot of business units with a lot of open positions," says Holger Hornik, Head of the AI and Data Analytics business unit at msg. "In

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—Christian Hertlein, Lead Consultant, msg

our complex business, it was a difficult task to match the right candidates to the appropriate positions."

Part of the challenge was that each applicant's CV was manually reviewed and matched against a database of hundreds of open positions. This was a time-consuming activity that slowed the application process for recruiters and job seekers alike. Additionally, with several similar openings across different business units, matching a candidate with the perfect role was susceptible to human misjudgment.

Christian Hertlein, Lead Consultant for msg, explains: "There may be an opening for a 'Watson senior consultant' in one business unit, while another division is looking for a 'Watson senior solution consultant.' The difficulty for the recruitment team was deciding which department is sent the applicant's CV."

In addition, the team had to deal with hundreds of phone calls from candidates asking for updates on their applications.

With msg growing by thousands of employees each year, the traditional recruitment method was proving to be inefficient for the forward-thinking company. According to Hertlein, msg had two choices: "We could expand the HR recruitment team and keep doing business the same way. Or, we could focus on new technologies to shift some of the work to the applicants—and get better information and better CV matching, while doing it all faster."

Intelligent hiring support from a bot

The company chose to focus on new technologies.

Using a combination of integrated Watson™ offerings, Hornik and his team developed Max, a recruitment bot powered by AI. The solution, which resides on msg's German-language career webpage, asks candidates a series of job-related questions, ultimately matching them with specific job openings based on the candidates' answers. Alternatively, individuals can upload their CVs and Max will automatically return a list of the suitable positions based on that information.

"CV matching is the major use case for our digital assistant," adds Hertlein. "What is really valuable about this solution is the interactive

search capability. The bot includes a tool that allows you to upload your CV; it then analyzes, understands it and compares the experience with open job roles. Then it returns a list of the best positions that the recruitment team should focus on. It saves a significant amount of time."

Max is based on the AI and natural language capabilities of IBM Watson Assistant technology, an enterprise-level AI assistant hosted on IBM Cloud™ in the Frankfurt data center. The team chose Watson technologies for their ease of use and high performance.

"When we compared and tested Watson Assistant against another bot framework using the same dialog and data, the ranking and confidence scores from Watson were always the best," explains Hertlein. "Plus, Watson Assistant doesn't require much training—it's incredibly intuitive."

The solution was jointly developed in six months by msg's IT and HR recruitment departments. The HR team trained Max on the unique terminology, discourse and content of recruiting, honing the questions that the tool asks applicants. HR also defined the path to second-level support and route for applicants to contact the HR department.

"Having the HR recruitment team so heavily involved was a major contributor to the success of the project and ensures they have the most suitable tool to support their

work," says Hertlein. "The ease of using Watson Assistant allows people from recruitment to work closely with us. They weren't required to write code; they simply used the tool kit in Watson Assistant to help us with the content and dialog, meaning we could focus on the technical architecture in the background."

The technology uses IBM Watson Knowledge Studio and IBM Natural Language Understanding to build HR-specific models that focus on recruiting terminology and concepts. The IT team deployed the models into IBM Watson Discovery, which acts as the bot's search engine when analyzing and matching CVs to roles.

The solution also finds relevant jobs by interacting with applicants and asking a series of questions. It starts with the broadest questions first, such as "Are you a student or a professional?" and "What kind of job do you want?" Gradually, the questions become more focused, such as asking applicants their desired work location.

Max also asks questions to narrow down the specific type of position applicants are seeking. For instance, if someone selects a job in consulting, the bot will inquire if he or she wants technical or business consulting. If the applicant selects technical consulting, the bot will ask about specific technology expertise, such as proficiency in particular programming languages. It also asks

applicants if they have experience in certain industries, such as banking or automotive, and for how many years.

After Max collects the information, it queries the database for job descriptions that match the applicant's answers and returns a focused list. Candidates can read the various job descriptions and submit their application for the job of their choice. And with the CV matching already done by applicants themselves, the recruiter can make contact.

Highly skilled workers in their ideal jobs

Max launched in June 2019 and has helped fulfil numerous roles at msg to date.

Since the bot's deployment, msg has seen a double-digit increase in its candidate-matching key performance indicator (KPI), with more job vacancies leading to more successful interviews and contracts. Hiring costs are down and the quality of the applications has improved; more than 20 percent of candidates are better qualified for the job.

Applicants are reaping the benefits too. "Previously, applicants could wait a long time before getting a response from the HR department because HR was trying to find the right position inside our very large organization," says Hertlein. "Now, with one-to-one matching, the

process is much faster for the applicant and it's helping us to fill roles quicker to the benefit of our colleagues and the business."

Max converses with around 60 job seekers a day, a number that increases each month. As the number of bot conversations rise, the volume of phone calls to HR goes down.

"With Max, we're giving applicants the opportunity to show us who they are first," explains Hornik. "Only then does our solution show them which job openings are best suited for them. They select one and apply. This is how they get the correct position in our company."

With the support of Max, the recruitment team now has the capacity to focus on important recruitment initiatives rather than the pressures of perfect manual matching. Additionally, the solution's success has bolstered the department's internal branding within the company.

msg is clearly an early adopter of innovative and exciting AI technologies—a position that, as a reseller and solutions provider, the company can promote when it's time to introduce Max to its own clients. Hertlein concludes: "We are still discussing ways to develop the bot for msg but, in the future, we'll make this asset available to our clients as well."

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Solution components

- IBM® Cloud™
- IBM Watson® Assistant
- IBM Watson Discovery
- IBM Watson Knowledge Studio
- IBM Watson Natural Language Understanding

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