



Business challenge

The Siemens HR division wanted to better support the learning and development of its 379,000, geo-dispersed workforce, which required that it adopt and incorporate new, innovative technologies.

Transformation

Siemens and IBM teamed to create an HR chatbot called CARL, which stands for Cognitive Assistant for Interactive User Relationship and Continuous Learning. The solution empowered Siemens employees with an around-the-clock single point of contact for HR-related questions—regardless of location, time zone, language or device.

Results

Improves employee satisfaction and experience

with readily accessible, relevant answers to HR-related questions

Saves HR staff time and resources

by reducing the number of employee support requests

Provides simplified, HR-enabled implementation

without the need for IT support

Siemens AG

A one-of-a-kind AI-based chatbot innovates employee support

Siemens is a German multinational conglomerate headquartered in Munich, and the largest industrial manufacturing company in Europe, with a presence in almost every country. A global powerhouse that focuses on the areas of electrification, automation and digitalization, Siemens is one of the world's largest producers of energy-efficient, resource-saving technologies. In its 2018 fiscal year, Siemens generated revenue totaling approximately USD 91 billion dollars. The company employs approximately 379,000 employees across the globe.

“The IBM and Siemens teams were both aware of what an enormous challenge it would be to fit so many topics into one chatbot.”

—Sabine Rinser-Willuhn, Manager, HR Systems, Siemens AG

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New options for HR support in the digital age

Siemens was founded in 1847, and its first invention—the electrical pointer telegraph—ushered in the modern era of telecommunication. As the company evolved into the global technology leader it is today, its core value of commitment to innovation has remained the basis for its success.

As part of its digital transformation initiative, Siemens has integrated automation and AI into many of its processes to deliver exceptional service to customers and partners. The company's corporate HR leaders were eager to embrace these same technologies and use them internally to better support a 379,000-person global workforce. The team envisioned using digital technologies to provide employees with interactive experiences and quicker, more accurate answers to questions—regardless of location, device or time of day.

Sabine Rinser-Willuhn, Manager, HR Systems at Siemens AG, says: “We had a solution in place in Germany which provided links to several HR IT applications, but we needed to replace it. We realized that we had a golden opportunity to explore new ways of working to achieve our goals, and that's when we contacted IBM.”

An IBM team and several members of the Siemens HR and IT divisions met in Hamburg, Germany during a three-day IBM Enterprise Design Thinking™ workshop. The workshop's output included plans to build a Siemens HR intranet landing page, which was employees' first source of HR information. The landing page would house a cognitive HR chatbot that all employees, regardless of location or device, could access around-the-clock. After Siemens green-lighted the project, IBM and Siemens specialists formed a development team to co-create—and continually evolve—CARL, an HR interactive chatbot.

CARL: A chatbot that speaks HR's language

Representatives from IBM and Siemens met regularly to foster the creativity and fast iteration associated with agile and design thinking methodologies. These approaches were new to the involved Siemens employees, but they quickly learned and embraced the principles, and the group members quickly formed a strong team bond. “In development team meetings, you couldn't distinguish between Siemens and IBM employees, nor between the IT and HR people,” said Joerg Brueckner, Associate Partner, IBM Global Business Services®. “I think a strong team spirit, combined with

“IBM is our trusted partner. What we've learned from the company about using design thinking and agile principles has helped Siemens HR evolve the way we work together.”

—Sabine Rinser-Willuhn, Manager, HR Systems, Siemens AG

consistently using an agile, design thinking framework, was integral to creating CARL so quickly.”

The development team first built what would become CARL's home, a new Siemens HR landing page that would connect the IT landscape between Siemens and IBM. The team then focused on the complex task of designing CARL with the capabilities and attributes that would meet Siemens HR's requirements. Since CARL would ultimately serve as a single point of contact for all HR-related questions in every Siemens location, its architecture required unprecedented scalability and adaptability. But just three months after the team co-developed CARL, it made its debut to an audience of 120,000 employees in the Siemens German and Austrian locations.

In keeping with design thinking practices, the development team prioritized the user experience in creating CARL. It initially programmed

the chatbot to address five topics that Siemens employees in Germany most often inquired about. These topics included sick leave, vacation, travel plans, share matching and ongoing education and training. But from the very beginning, CARL's architecture was designed to easily scale and adapt to accommodate increasing numbers of users, languages and topics as it expands to other Siemens sites.

CARL's chat capability runs on IBM Cloud, with Watson™ Assistant and Watson Discovery as core components. One of the chatbot's most unique features is a built-in administrative panel, which functions as a content management system. The panel allows the Siemens HR staff to implement different topics quickly, without the need for IT support. This feature enables every Siemens location to quickly configure and customize its version of CARL based on employees' unique needs.

Transforming employees' HR experience

CARL, which is named after a son of the Siemens founder Werner von Siemens, now provides HR-related support to 280,000 Siemens employees across 20 countries. Now fluent in German, English, French, Spanish and Portuguese, and well-versed in 200-plus topics, CARL responds to approximately one million

standard employee queries a month. It spends its days helping Siemens employees access relevant, accurate content, both through interactive chats and by highlighting trending topics on his landing page. And because AI systems get smarter the more they're used, CARL is learning to answer more complex questions every day.

CARL helps make life easier for the company's employees as well as its HR departments. Employees have a faster and more straightforward way to find relevant HR-related information—increasing employee satisfaction and reducing the time that HR staff spend answering employee support requests. And to help ensure that CARL retains a user-centric focus as it evolves, employees can access an innovation hub to offer suggestions for improvement. HR staff can also provide critical feedback to further refine the chatbot's future iterations.

Meanwhile, now in its 44th sprint, the CARL development team uses its ongoing roadmap to continue innovating the chatbot and increasing its capabilities. The team is currently working to help CARL improve

“I don't think there's ever been an HR chatbot like CARL, and it wouldn't exist without the agile, design thinking approach that IBM provided.”

—Sabine Rinser-Willuhn, Manager,
HR Systems, Siemens AG

suggestions to employees, increase its chat functionality and build up its supervised learning component.

As CARL continues to improve with every user interaction, its future is bright. “CARL is well-known throughout Germany. Its notoriety even extends into the world,” says Rinser-Willuhn. “CARL has already won two internal Siemens IT/HR and innovation awards and another external award (Preis der Deutschen Personalwirtschaft, or “Prince of German Human Resources”) in Germany. And as the first internal corporate division within Siemens to integrate agile and AI technologies, other Siemens colleagues are keen to follow our example.”

Solution components

- IBM® Cloud™
- IBM Watson® Assistant
- IBM Watson Discovery
- IBM Services
(Global Business Services®)

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