Launch of a new service specialized in contact-center operations using newly developed AI technology

BELLSYSTEM24 Holdings, Inc. (head office: Chuo Ward, Tokyo; President, CEO, and Representative Director: Shunsuke Noda; hereinafter, "BELLSYSTEM24") and Sony Computer Science Laboratories, Inc. (head office: Shinagawa Ward, Tokyo; President and CEO: Hiroaki Kitano; hereinafter, "Sony CSL") have launched a new service specialized in contact-center operations. This new service contributes improving operational efficiency through the use of newly developed artificial intelligence (AI) technology.

With Mopas™, a high-precision AI search engine specialized for contact-center operations, and Knowledge Creator™ (patent pending), a feature that enables AI-enhanced knowledge maintenance, this service improves efficiency and reduces the operations necessary to respond to email inquiries from customers.

Mopas™ automatically creates an optimal AI model from several hundred-thousand patterns of algorithm and parameters to achieve high-precision responses within a few hours based on contact-center FAQ data of client companies. Generally, automated response systems at contact centers use AI algorithms that are specific to each business category and require a variety of log data from phone calls, emails, online chats, and other communications with customers. Mopas™, however, identifies optimal AI models using the enormous quantity and diversity of its algorithms with a limited amount of input data. In addition, we are continually evaluating and verifying the results of AI research at the Innovation Communication Science Lab, which was established within BELLSYSTEM24 this April. This enables customers to use AI search engines that are always updated with the latest algorithms.

Knowledge Creator™ uses clustering (a method that groups data on the basis of similarity) integrated in an intuitive user interface and provides suggestions for search keywords and similar inquiries, resulting in dramatically improved operations that had previously been conducted manually using spreadsheet software, such as the addition of supervised data and management of FAQ knowledge. By combining Knowledge Creator™ and Mopas™, this new service improves search accuracy and knowledge coverage in daily operation.
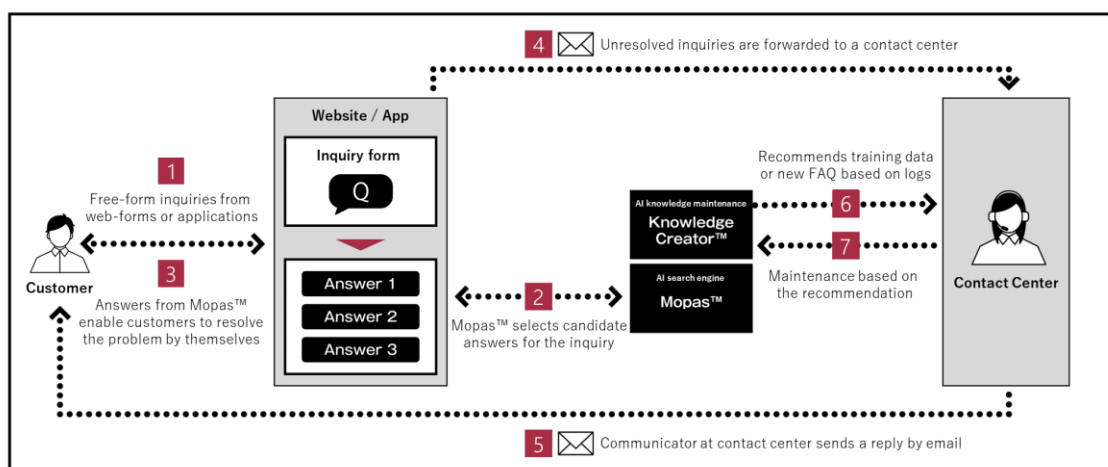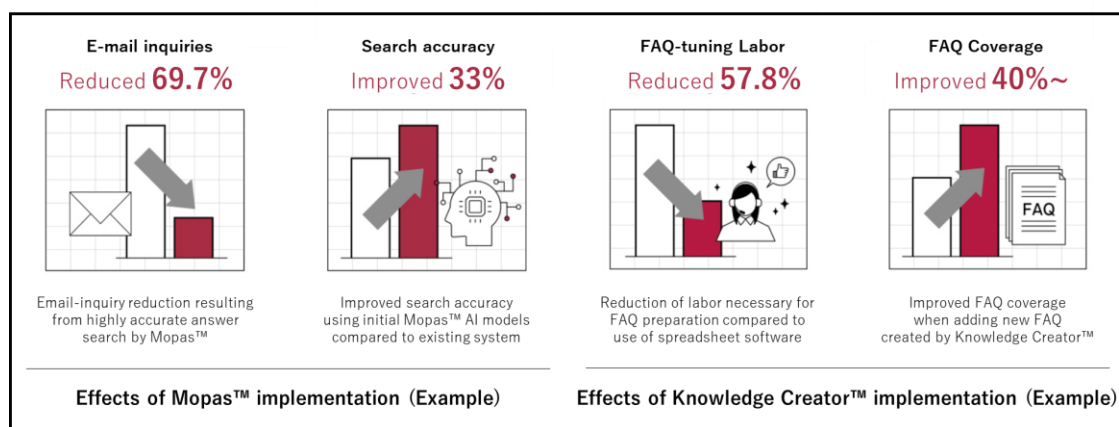

Conceptual diagram of the service

This newly developed AI technology will enable the use of AI specialized for the business type or category of each client company with a low introduction cost. These solutions also keep the AI updated and optimized for the client's customer services with low operational costs. For this service, BELLSYSTEM24 is mainly in charge of product development and sales activities while Sony CSL advances research and development, such as the development of AI algorithms, to improve functionality and performance.

■ Effects of the introduction of the service in a trial operation

A trial of the service has been under way for more than a year. We have repeatedly verified and improved the system while also validating its effectiveness with client companies, namely, manufacturers and telecommunication carriers. The trials proved the effectiveness of the system: the number of email inquiries was reduced by 69.7% and FAQ coverage improved by 40% or more.

E-mail inquiries	Search accuracy	FAQ-tuning Labor	FAQ Coverage
Reduced **69.7%**	Improved **33%**	Reduced **57.8%**	Improved **40%~**
Email-inquiry reduction resulting from highly accurate answer search by Mopas™	Improved search accuracy using initial Mopas™ AI models compared to existing system	Reduction of labor necessary for FAQ preparation compared to use of spreadsheet software	Improved FAQ coverage when adding new FAQ created by Knowledge Creator™
Effects of Mopas™ implementation (Example)		Effects of Knowledge Creator™ implementation (Example)	

■ Background behind the development

Nowadays, contact centers receive consumer inquiries through various communication methods including not only phone calls but also emails and online chats. For companies operating customer support, developing systems that respond to each of these communication methods has become more and more difficult.

Many contact centers already use certain AI search engines, but they usually implement specific algorithms that are not always compatible with different business types or categories, causing significant variations in performance and results. In addition, once an AI search engine is built, its algorithm is often not updatable, preventing it from keeping up with cutting-edge technology that evolves every day around the world. Also, AI search engines have usually required a significant human-labor investment to maintain data and update their knowledge.

To solve those problems and develop an optimal AI for practical customer-service operations, BELLSYSTEM24 and Sony CSL have jointly developed an original AI by combining BELLSYSTEM24's knowledge of the on-site flow of contact-center operations and Sony CSL's knowledge of AI research. Through this development, the two companies aim to improve the efficiency of operations, reduce the strain on contact-center employees, and improve customer-friendliness in contact-center operations.

■Yasuhiro Matsuda
Corporate Officer and CIO of BELLSYSTEM24 Holdings, Inc.
Statement from the Director of the Innovation Communication Science Lab

"The sophistication and standardization of knowledge management are important areas to focus on for increasing the use of AI in contact centers so that people can benefit from it. Now, through the provision of Mopas™, with its highly accurate algorithms, and Knowledge Creator™, which improves knowledge coverage, we have taken the first steps toward. In the future, the Innovation Communication Science Lab will continue to research and develop further solutions using the on-site capabilities of BELLSYSTEM24 and the technologies of Sony CSL, which are an ideal combination for problem identification, experimentation, verification, and productization. We will provide the products that result from these efforts."

■Michael Spranger
Sony Computer Science Laboratories, Inc. researcher and COO of Sony AI Inc.
Statement from the joint director of Innovation Communication Science Lab

"Contact centers, which serve as a direct point of contact between users and companies, are on the front line of customer satisfaction and retention. I think the role of AI will increase as a means to enable companies to support users more actively than ever, gain insight from them, and build long-term relationships with them. However, AI is in the middle of its evolution as a technology, and new research is released on a daily basis. To effectively use AI in these circumstances, one must create a positive cycle of innovation focused on data. At the same time, it is important to enable even companies that do not have much data to utilize AI. To accomplish this, we have developed Mopas™, which provides world-class performance through the utilization of cutting-edge AI algorithms, and Knowledge Creator™, which provides a clear path toward creating, maintaining, and updating the necessary data. We will continue to add features that will improve the usability of these systems."

About BELLSYSTEM24 Holdings, Inc.
In 1982, BELLSYSTEM24 began operating its call-center services fully for the first time in Japan. To date, it has established 36 bases of operation around the nation, the highest number for any company in Japan, and has approximately 17,000 booths. The company concluded a capital and business alliance with ITOCHU Corporation in 2014 and with Toppan Printing Co., Ltd. in 2017, aiming to create new business opportunities and services. With the goal of continuing to be the Best CX Partner for its client companies, BELLSYSTEM24 has been developing next-generation contact centers that offer the development of highly skilled employees who provide high-quality services and support for contact-center employees using AI, robotic process automation (RPA), and other new technologies. In one of its initiatives, the company has brought in a co-director from Sony Computer Science Laboratories, Inc. this year and established an in-house R&D organization, the Innovation Communication Science Lab (ICS Lab).
　　URL: https://www.bell24hd.co.jp/

About Sony Computer Science Laboratories, Inc.
Sony CSL was established by Sony Corporation in 1988. It aims to develop new research areas and paradigms, new technologies, and new business for the purpose of contributing to humanity and society. Currently, its main focus is research that addresses global social issues such as agriculture, urban development, energy, and healthcare; the extension of human capabilities (human augmentation/creativity); AI; and data science. The company has branches in Tokyo, Kyoto, and Paris.
　　URL: https://www.sonycsl.co.jp/

Mopas™ website
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Mopas™ and Knowledge Creator™ video
    URL: https://youtu.be/I6_EZtjVgac
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