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Hello? Guten Tag? Moshi-Moshi?

A Translating Phone For Overseas Calls

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TOKYO, Jan. 27 — A telephone system that translates from one language to another has long been a dream of researchers because it would make it far easier for people in different countries to communicate. Now the dream is taking a step toward reality.

What are being described as the first international calls using automatic interpreting telephony systems will be made on Thursday, linking research centers in Japan, the United States and Germany.

Researchers at the ATR Interpreting Telephone Research Laboratories in Kyoto, Japan, will telephone scientists at Carnegie Mellon University in Pittsburgh. The Kyoto scientists will speak in Japanese and what they say will emerge as English at the other end of the line in Pittsburgh. When the Carnegie Mellon engineers reply in English, their answers will be heard in Japanese in Japan.

Similar conversations will also take place with researchers from Siemens A.G. and Karlsruhe University in Germany, who also cooperated in developing the system.

"What we have is a demonstration that this is possible," said Alex Waibel, a professor of computer science at both Carnegie Mellon and Karlsruhe.

But true interpreting telephones that will let anyone speak freely to anyone else are decades away, experts say.

The system being demonstrated Thursday is restricted to 500 English words on the topic of registering for an international conference. It can probably translate a sentence such as "Please tell me the topic of the conference," but not a sentence about the weather or politics. Moreover, the system assumes that speakers use grammatical sentences.

Such automatic interpreting systems involve the combination of three technologies: speech recognition, in which a computer understands what people are saying; machine translation, in which a computer translates from one language to another, and speech synthesis, in which a computer produces speech from text or from computer instructions.

In the system to be demonstrated on Thursday, Japanese speech will be recognized and turned into Japanese text by a computer at ATR, a government-backed research laboratory. ATR's computer will then translate the Japanese text into English text. The English text will be transmitted over the phone line to Carnegie Mellon, where another computer will turn it into English speech. A similar process will operate in reverse.