



#### 4. Technology Watch

### Mobile Multi-lingual Automatic Interpretation System “Mobililingual”

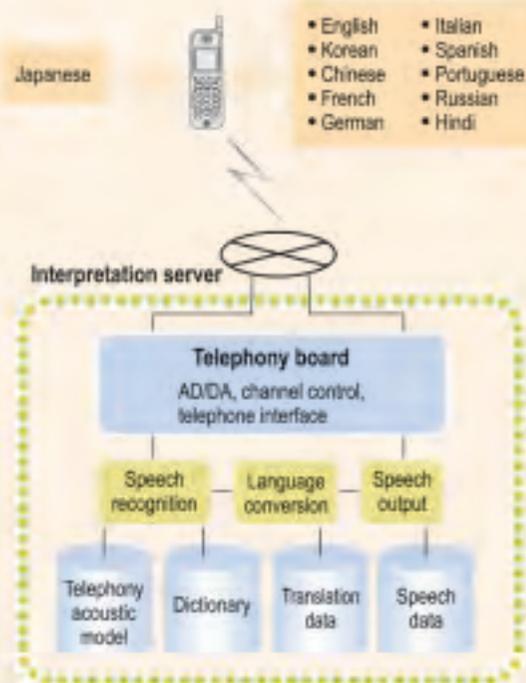
A multi-lingual automatic interpreter system “Mobililingual” for cellular phones that is based on speech recognition technology was developed. The automatic interpreter has been generating great expectation as technological dream of the future.

The system can translate Japanese sentences registered beforehand into 10 different languages through a cellular phone. This process is performed on a server located at the processing center.

The features of this system are as follows :

1. The system can be used from any telephones.
2. It is possible to recognize anyone's speech with high accuracy if they speaks clearly.
3. The response is quick.

Our future work will focus on improving the performance of the system under adverse noise environments, and we will endeavour to develop the concept of a new service that will ease social internationalization.



System and process: The Japanese speech uttered by a cellular phone user is recognized on the server at the center, and converted into 10 foreign languages.

(Source : Hitachi Technology 2002-2003, Website : <http://global.hitachi.com>)

### Virtual Keyboard

The Smaller A Cell Phone or hand-held computer is, the more complicated it gets to type in numbers or messages. Siemens has now worked out a solution to this problem: a virtual keyboard for cell phones and handhelds that can be used as easily as a typewriter, and which will probably hit the market this fall. The device, which is slightly bigger than a cell phone, consists of three components : a laser diode, a chip, and an infrared system. The laser diode projects the image of a conventional computer keyboard, visible to the user as a red light image, onto a smooth surface such as desk top. As the user types, the virtual keyboard even emits soft clicking sound. The infrared system transmits the typist's finger movements to the chip, which registers the sequence of typed keys and transmits the information to the device in question. The keyboard remains visible even in very bright light and can cope with typing speeds of up to 120 characters per minute. The product, priced at about 150 Euros, was exhibited by its manufacturers, Siemens and the Delaware-based VKB Inc., at this year's CeBIT computer show in Hanover, where it proved to be very popular with visitors.

(Courtesy : Silke Menze, New World (The Siemens Magazine), September 2002, No. 3 issue, Author Contact : [Monika.Winkler@siemens.com](mailto:Monika.Winkler@siemens.com))

#### Comment of the Editors :

#### Multi-lingual Keyboard Projection

Multi-lingual key tops may be projected using a device in the center consisting of laser diode and a chip storing KB patterns that projects a red light image of a conventional computer keyboard for the selected language. The keyboard driver takes care of key strokes to interpret and encode in that language.