

Practical Experience in the Application of MT Systems

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Fujitsu and Fujitsu Laboratories initiated research and development of machine translation systems more than ten years ago in anticipation of expanded future demand for machine translation systems. As a result, the ATLAS-I system for English-Japanese translation and the ATLAS II System for Japanese-English translation have now been on the market for four years. ATLAS-I is based on the syntax analysis method, and ATLAS II is based on the interlingua approach with semantic analysis. For the basic application field, manuals in the scientific and technological fields are considered, and the two systems are now being shipped to more than a hundred clients. The systems uses FACOM M-series general-purpose mainframe computer software. Recently, this software was adapted for use on workstations.

The user must develop a technical-term dictionary that corresponds to the desired application area, the cost for which is substantial. For this reason, there are active approaches for MT in limited areas, principally in manufacturing. Especially among corporations that are exporting overseas, the expectations are strongest for the machine translation of handling, operational, and maintenance manuals. Some corporations, accordingly, are using machine translation on a practical basis.

Representative examples of practical machine translation include the following. Mazda, an automobile company, has decided to introduce Fujitsu's ATLAS II to translate maintenance manuals. Currently, the company is considering application of machine translation system for operational manuals and general technical documents. Mazda has begun

building a total document-management system, connected directly with the electronic publishing system.

At Fujitsu, ATLAS II is used for making English computer manuals. To date, about forty manuals have been translated using the machine translation system.

A film-maker is producing a service manual using the machine translation system. The company has so far translated about one thousand pages.

Using a network VAN service, Fujitsu FIP is providing ATLAS machine translation services. Because the translation cannot be completed by the system itself, a special translator post-edits the machine output. By using the system, however, a good translation is delivered to the client. In the same manner, Fujitsu FIP, in conjunction with Inter Group Corporation, is providing an early version of abstracts of scientific and technological papers for the Commission for the European Communities. About 700 to 1,000 abstracts are being translated each month.

Through the practical and experimental use of machine translation, users are taking advantage of machine translation to realize shortened delivery time and as much as a 50 percent reduction in costs.

As can be seen from the above examples, there is increased use of machine translation systems for better cost-performance. We must mention, however, that the areas are limited in which machine translation systems based on current technologies can work to their fullest capabilities.

The computer manufacturers' research and development teams will make active efforts to enlarge rapidly the application ranges of machine translation systems. To achieve this, we would like to develop systems that

can meet the needs of our clients by the following measures: improving the knowledge base for semantic analysis, developing contextual analysis methods, developing technical dictionaries, developing a more advanced document-editing support system, providing an easy-to-use human-machine interface, etc.