

Loll ROLLING  
Commission of the European Communities  
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Machine Translation Summit II

Panel 1 : Practical Experience in the Application of MT Systems

The Commission is currently developing and making use of Systran and also participating in the Eurotra R & D programme. Therefore I need not go into the characteristics of Systran: Denis Gachot did it in Session 1. Nor do I have to describe the present state of Eurotra: Sergei Perschke will do so in Session 6. As to the "governmental views" on MT, Cees Jansen Van Rosendaal will be giving you his views in Panel 2.

My presentation will be limited to extrapolating from our extensive experience with Systran as well as from that with Logos, Titus and Atlas, which we have used for limited periods, in order to draw some conclusions that might be usefully considered by present and future users of MT.

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In order to evaluate the quality increase of systems in operation or under development, the Commission was able to gather a number of evaluation criteria. The conclusion was that different criteria are applicable to systems under development, where the translation quality is low, but can increase quickly, and to operational systems, where the quality is high and improves slowly.

In the first case, criteria such as intelligibility, accuracy or revision time are sufficient. In the latter case, the best criterion is revision rate, i.e. the percentage of text words that have to undergo a change (replacement, sequence, spelling).

In order to discard subjective assessment by evaluators, the best way is to have evaluation done in parallel by three evaluators.

An error identified by only one of three evaluators cannot be but a stylistic variation, so the error count must take into consideration only errors identified by at least two evaluators.

For Systran at the Commission, the revision rate is now below 5% for certain language pairs and text types, but it can be as high as 30% if the dictionaries and software routines have not yet been extended to cover new subject fields and text types.

User acceptance is evolving: An increasing number of users are willing to accept raw translation or rapidly post-edited translations rather than to wait a week for a thoroughly polished target text.

Looking ahead, I foresee a number of changes affecting the development and use of MT.

1. Use of the well-known linguistic programming languages like LISP or PROLOG is out. New MT systems are developed for use on minis and personal computers and aimed at specific text types rather than subject fields. There is thus a trend towards use of the C language or even Assembler which provide optimal turnaround possibilities.
2. Dictionary compilation will gradually be automated: For new systems or language pairs, existing electronic dictionaries can be adapted by system-specific coding. Existing systems can enhance their dictionaries by automatic exploitation of multilingual text corpora, which is far more cost-effective than the incorporation of large quantities of expressions from term banks or glossaries.
3. MT developers should always have in mind that anything that you can teach a human translator, you can teach a computer to do, but you must not try to imitate the workings of the human brain: that is definitely too expensive.  
The best solution will always be to combine what the computer does best and what human beings do best.
4. The major challenge to be faced by MT in the next ten years is that of a progressive integration of MT modules into existing infrastructures that were not initially designed for multilingual text communication. The Commission itself is a striking example, since five years were spent trying to give individual EC officials access to Systran services through a multi-purpose network of equipment.

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My recommendations to the participants of this MT Summit are the following:

In view of the Single Market beyond 1992, Europe has a large need for MT systems and services to facilitate information flow between its twelve member countries in (at least) nine languages.

This will require tremendous expenditure if we are not prepared to pool our resources. The Commission will promote the joint compilation and exploitation of text corpora and dictionaries in those nine languages, not only in English. It will also promote the use of MT and other "language engineering" products and services by national and international authorities and industrial companies.

A common platform of industrial users would be welcome, as would the creation, several times proposed, of a worldwide association of MT system developers and operators.