The Canadian Teletext System "Telidon" — better than the European competition ?

In the summer of 1979, the Munich study group *"MEDIEN VOR ORT"* ("Media Scene") gathered information about current communications developments in Canada. In the following article, MVO members Klaus Bodel and Stefan Jedele discuss the Canadian teletext system "Telidon".

For a long time, teletext seemed to be a purely European achievement. The introduction of the British system prompted the French to develop their own technology. Other countries, including the Federal Republic of Germany followed the British example with minor modifications. Developments across the Atlantic were and still are virtually unknown in Europe. Thus the only foreign exhibitors of teletext systems at the Berlin Radio Exhibition were the British and French. Canada, however, developed its own system, "Telidon". The Canadian Department of Communications describes the system it promotes as demonstrably superior to the known European technologies.

At first glance, Telidon appears to be similar to the other systems. The textual material is transmitted to the home TV set either through telephone lines, during the blanking interval of the TV signal, or through cable. For this purpose, television sets are equipped with decoders. An additional modem may be required to connect the TV set to the telephone. The user may select individual pages himself, or he may use tree search to find the information he wants.

The first obvious difference in comparison with other systems lies in the transmission of graphic information. Displayed with European systems, a map of Canada, for example, looks as if it were assembled from small mosaic stones. With Telidon the same map appears on the screen with a resolution that is almost true to the millimetre. The Canadians have developed an alpha-geometric transmission process, while Europeans use the alpha-mosaic approach to graphic information display.

With Prestel, Antiope and Bildschirmtext, the TV screen is divided into a matrix of 40 horizontal and 40 vertical elements. For textual information, each of these 960 areas can hold one letter. For graphical information, each of these areas is subdivided into two horizontal and three vertical elements. Thus for graphics, the screen displays a matrix of 72 horizontal rows and 80 vertical columns. All graphic information has to be composed from this mosaic of 5,760 rectangles. This results in the step-like presentation of pictures and graphics in European systems.

The Canadians have used a different approach. The Communications Research Centre near Ottawa has developed Picture Description Instructions (PDIs), the main advantage in comparison with European systems. Images are stored in the central computer in coded form, i.e. broken down into their geometrical elements: points, lines, arcs, areas and polygons. Images are not transmitted line by line as in European systems, but in a kind of "sign language" composed of geometric shapes. This means not only that much more accurate information appears on the screen, but also that as a rule less network capacity is required.

This better technological solution was made possible through more sophisticated decoders. These are attachments to TV sets and contain so much computer technology that they can be called microcomputers.

But these microcomputers pave the way for a number of other possibilities. Thus individual Telidon users may communicate directly with each other via telephone lines. Telidon also allows the use of different categories of terminals. Even more sophisticated decoders or microcomputers are conceivable which in conjunction with special monitors may display the same graphic information with greater resolution than is possible with conventional TV sets. European systems on the other hand are keyed to only one standard type terminal. With Telidon, signals of the Prestel, Antiope and Bildschirmtext systems can be decoded by means of only slightly modified decoders. The opposite could only be achieved with very considerable additional expenditure. In addition, Telidon videotex terminals can be used as personal and office computers.

Telidon can offer these advantages because this system was developed later than competing European systems. Thus the Canadians were able to utilize new technology in the computer and electronics sector. But this extra technology has affected the price of the accessory devices. A Telidon decoder built according to the present state of the art would cost about twice as much as a European model. However, the Canadians feel that because of technological developments the price differential will decrease steadily. They hope that it will soon disappear altogether or at least become insignificant.

Canada's system for two-way TV, Telidon, has been chosen over competing European systems for a major U.S. field trial. Ottawa officials say the choice, represents a major breakthrough in their efforts to build an export market that will eventually be worth billions.

The trial of Telidon, developed at the department's laboratories near Ottawa, involves putting modified television sets, adapted to request and receive information from a computer into 60 selected homes or institutions. It is being sponsored by the Corporation for Public Broadcasting and the National Telecommunications and Information Administration, the U.S. agency dealing with telecommunications and computers.

Several prominent organizations will participate by providing information to the system, including the Washington Post, the Washington Star, the D.C. Public Library, the Smithsonian Institution, and the U.S. Energy Department, Federal Information Centre, Federal Trade Commission and Food and Drug Administration.

Canadian companies supplying equipment to Washington are Norpak Ltd. of Pakenham, Ont., and Electro-home Ltd. of Waterloo. Technical assistance is being provided by the Department of Communications and by TVOntario, which is currently conducting its own field trial.