

MÜNCHNER KREIS

Supranational Association
for Communications Research



Two-Way Cable Television

Experiences with Pilot Projects
in North America, Japan, and Europe

Edited by W. Kaiser, H. Marko, and E. Witte



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Edited by W. Kaiser, H. Marko, and E. Witte

With 70 Figures and 8 Tables



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Neue Züricher Zeitung



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Introduction

Hans Marko

Munich, Federal Republic of Germany

1. As a charter member of the "MÜNCHNER KREIS" and the organizer of this symposium, I take pleasure in welcoming you to these rooms of the Carl Friedrich von Siemens Foundation.
2. I am pleased that we have succeeded in gathering together such a large and distinguished body of professionally qualified people to discuss new developments and directions in broadband communication.
3. This is the first symposium of the MÜNCHNER KREIS, a supranational organization whose aim is to provide an international forum where not only the technical aspects but also the social and economic implications of new communications media might be discussed on an interdisciplinary basis. Professor Witte, Chairman of the MÜNCHNER KREIS, will have more to say concerning the organization's goals.
4. The physical world in which we live is hallmarked by two major forces: energy and information. From the sociological and economic standpoints, they can equally be viewed as major needs.
5. Whereas in the energy sector there are restrictions and limitations that curb development at every turn, this is not the case in the information sector. On the contrary - information engineering offers a host of new possibilities, many of which are realizable now or in the near future, thanks to new technologies. Among the more obvious examples are semiconductor technology, electronic computers, satellite engineering, and glass fiber transmission systems.

6. Thus while the Club of Rome is compelled to warn of the limits of growth as respects our energy resources, the MÜNCHNER KREIS is confronted with a rash of unique possibilities in the communications area, some of which could well become substitutes for energy consumption. To discern the best possible future and to work toward its realization is the problem.
7. The broadband CATV distribution system with return (upstream) channel is a particularly timely subject in this context. All around the world pilot projects, such as that recommended in the Federal Republic of Germany by the KtK (Commission for the Development of Technical Communication Systems), are being planned or have already been begun. It is our hope that during this symposium we can exchange ideas with the experts working on such projects, and discuss future aspects with them. This discussion will necessarily revolve in large measure around the great unknown - that is, the question of the relationship between technical and economic feasibility and social need or demand. More far-reaching problems, such as legal and political considerations, can and should be given only passing mention.
8. One aspect seems to me deserving of special notice. This is the lack of symmetry in today's mass communication media. These essentially form a system for information distribution only, and therefore provide no opportunity for genuine communication. The consumer's role consists solely of tuning programs in or out, and switching channels. Whether today's passive information consumer will evolve into an at least partially active partner in the communication process is a pivotal question. As expressed in the terms of the MÜNCHNER KREIS: "What shall we do with the return channel?" I hope that the present symposium will give us the answer.
9. The goal of the symposium -- discussion -- demands a drastic limitation of the number of participants. I therefore apologize to all who, despite great interest, are unable to take part. We will try to make the symposium report, which will be published by Springer, available as soon as possible. To reap the full benefit of the discussion, we should like to record the proceedings on tape, and request your permission to do so.

10. Allow me at this time to thank all who have played a part in making this symposium possible. On behalf of the Lecture Committee I thank all who with their advice and experience helped us to plan the program, particularly Mr. Brownstein of the National Science Foundation in the U.S., who unfortunately cannot be here. I am also especially grateful to Dr. Hochmuth for handling all correspondence. I should further like to thank the communications engineering industry for its backing, and the Carl Friedrich von Siemens Foundation for its hospitality in placing these beautiful rooms at our disposal.
The symposium is herewith opened, and I wish you the best of success.

The Münchner Kreis A Supranational Association for Communications Research

Eberhard Witte
Munich, Federal Republic of Germany

The MÜNCHNER KREIS was founded in September 1974 on the initiative of leading personages in the fields of science, politics, industry, commerce and the communications media with the wholehearted support of the Bavarian Academy of Science.

The Association's aim is to promote research in questions connected with the development, establishment and operation of technical communications systems and their utilization. Special attention is to be paid thereby to human, social, economic and political problems arising out of the introduction of new communications technologies.

The MÜNCHNER KREIS thus operates on an interdisciplinary level. Whereas special aspects of, for example, telecommunications engineering or of policy in regard to the communications media are the concern of the appropriate scientific bodies, the MÜNCHNER KREIS concentrates on integrating the contributions made by the different scientific disciplines with a view to finding solutions to the comprehensive problems caused by the new communications technologies.

The Association pays special attention to the prerequisites required if innovations in communications technology are to be introduced successfully. Its primary concern is with the problem of gaining people's acceptance for the new services. The question we are confronted with here is in how far people are willing to see the traditional direct human communication supplemented, or even in part replaced, by a technically provided long-distance communication (telecommunication). This can of course involve a decisive change in people's relationship to their fellow men and possibly bring about a certain "isolation". On the other hand, telecommunications facilitates "understanding" between people who are separated by distance and would otherwise have no possibility of communicating.

The average citizen will be more and more confronted with the need to select from the mass of information with which he is bombarded from all sides every day. Since people are finding it ever more difficult to cope with the conventional means of documentation and information, one of the tasks of the MÜNCHNER KREIS is to examine the possible new technologies with a view to ascertaining to what extent their implementation would facilitate the more effective utilization of this flood of information.

Besides devoting its attentions to the prerequisites of innovations, the Association also closely studies the effects of new information technologies. It goes without saying that the further development of communication systems will have a decisive impact on economic and social processes within the state, the local community and the family. Serious attention must be paid to the interconnections between communication and democracy.

Since the MÜNCHNER KREIS is a supranational association for communications research, it regards as another of its tasks the discussion - beyond the national borders - of the integration problems outlined above and the consideration of alternative solutions in close collaboration with experts from other countries. The Commission for the Development of the Telecommunication System (KtK) appointed by the Federal Government of Germany had to restrict its work to the telecommunication system within the Federal Republic, but arrived at the conclusion that true telecommunication implies international standardization, on the one hand, and economic and political coordination, on the other.

The recognition is gaining ground that it is imperative to develop a worldwide telecommunications infrastructure which will guarantee the international accessibility of all its members, online terminals and forms of communication which are available to all. The international homogeneity of the legal, organizational and commercial conditions of use should also be insured.

If we are successful in meeting the need for supranational solutions, then telecommunication will itself be in a position to stimulate positive effects which will help assimilate the social and economic structures in the various countries. Telecommunication therefore requires supranational cooperation on the one hand, but also promotes supranational cooperation by creating the possibility of communication and understanding on the other.

The MÜNCHNER KREIS is aware of the fact that it is providing a service. A private association which unites representatives of science, commerce, industry, social policy, the media, law and politics is undoubtedly in a position to send out impulses to promote advances, to elaborate alternative decision possibilities and to forecast their effects. It cannot, however, make the decisions by itself. This is the dividing line between the stimulation offered by expert advisers and the responsibility borne by the appropriate political bodies and institutions.

The aim of the MÜNCHNER KREIS is to provide a forum for the critical discussion of the entire spectrum of well-founded opinion. It will assist the responsible authorities at the national and supranational levels with its solutions and will even press for solutions, but it will hold aloof from partypolitical attachments.

As far as the man in the street is concerned, the MÜNCHNER KREIS wishes to give him a clear, easily comprehensible picture of what the telecommunications technologies have in store for the future to enable him to understand possible innovations and the perils they involve. Hence the MÜNCHNER KREIS has a dual goal: that of preparing the general public for the innovative process and that of registering and predicting people's reactions to the new possibilities of communication.

Working Method

The MÜNCHNER KREIS works on the principle of impartiality in politics and of supranationalism in regard to purely national interests and concerns. In this way it secures the freedom to discuss open-mindedly and without considering the interests of other parties any ideas, alternative proposals and problems that may arise and to offer those officially responsible new impulses and promising suggestions.

Due to the supranational and interdisciplinary nature of its tasks, the Association aims at an international membership drawn from the widest possible variety of fields of specialization so that it will be able to deal with the problems of communication on as comprehensive a basis as possible.

The Association's activities concentrate on the following in particular:

1. Symposia are held in which concrete and carefully outlined problems in the field of telecommunication are treated. (Example: the symposium dealing with an exchange of experiences in regard to the planning and implementation of pilot projects of cable communication with return channels.
2. While the symposia are intended as an opportunity for the exchange of ideas in a more limited circle, the Congresses of the MÜNCHNER KREIS are aimed at the general public interested in such problems. (Example: the Congress "Communication and Democracy".)
3. The symposia, congresses and statements of the MÜNCHNER KREIS are prepared and evaluated in study groups (examples: study groups for broadband and narrowband communication). The association also promotes scientific experiments accompanying the field research of new communications technologies and contents.
4. In keeping with its articles of association, the MÜNCHNER KREIS not only organizes events of its own, but also induces external organizations to develop and promote innovations (example: study group "Viewdata").
5. As a result of the scientific analyses and discussions pertaining to communications policy, the MÜNCHNER KREIS submits memoranda, proposals and public statements.
6. The publications of the MÜNCHNER KREIS include Lecture Notes covering the results of symposia and workshops (mainly in English). Over and above this, comprehensive publications on the development of communication policy are directed at a more comprehensive public

Organization

The MÜNCHNER KREIS is a registered association with its office in Munich. Its executive organs are the General Meeting of its members and the Managing Board. The MÜNCHNER KREIS works in the public interest and has been accorded recognition as a non-profit and non-commercial organization.

The work of the Association is financed entirely by the voluntary contributions of its members and by donations. Both natural and juristic persons from Germany and abroad are eligible for membership. New members are admitted by resolution of the General Meeting, their application for membership having been submitted in writing beforehand.

The scientific work of the Association is directed by a Research Committee whose task it is to supervise and conduct the scientific activities of the Association and which, in concurrence with the Managing Board, is authorized to award research projects to third parties. Individuals who are authorities on specific aspects of communication studies and who may also be non-members can be called upon to act as consultants in assisting the Research Committee.

What is technically possible, economically reasonable, socially desirable and politically feasible must be established and critically examined in supranational discussion and by scientific analysis. The MÜNCHNER KREIS is endeavoring to make its contribution to this comprehensive goal.