II. PROJECT SUMMARY

1. Background

Various European Directives provide already a framework for the control of aquatic substances, the quality of bathing , surface and drinking waters and effluent control. Such regulatory measures are closely related to analytical measurements. However, in order to comply with these regulations on a permanent basis, treatment plants and distribution companies, as well as water users and polluters, need to implement automated measuring techniques, such as sensors and other analytical tools in continuous or sequential mode to obtain suitable alarm systems and facilitate the management of water resources and decision making processes.

2. Objectives

It is vital that reliable quality control systems be achieved and maintained. At present, however, only a small range of analytical parameters can be measured automatically, satisfying the required quality and sensitivity criteria within an acceptable cost. It is therefore necessary to develop and validate new methods to extend the list of parameters. In addition, straightforward extrapolation of laboratory measurements is insufficient to meet the requirements of continuous monitoring. Finally, the development of new methodologies requires that the most recent know-how in fields such as optics, electrochemistry, biochemistry, chemometrics and others be shared by experts.

3. Work programme

In order to identify possible actions to be undertaken in the field of standards, measurements and testing for monitoring water quality, the Standards Measurements and Testing (SMT) Programme of the European Union, organised a European workshop that was held in Nancy 29-31 May 1997. This Workshop brought together researchers and industrial users with the aim to make an overview of the present state of the art, to consider possible improvements in existing techniques and the need and possibilities of developing new advanced technologies.

4. State of progress

It became evident in the preparation of the meeting and professional contacts established, that due to the spatial and time dependent variability of water characteristics, on-line monitoring is needed. Yet, it became evident that corresponding techniques are rather limited in terms of the parameters covered and sensitivities available compared to existing laboratory techniques. At the outset of the Workshop, the participants agreed that a continued research effort was necessary to improve on-line monitoring performance and to encourage wider acceptance and promote their use. The proceedings of this Workshop will not only be published to reflect the issues raised during this event, or to merely identify priorities for the development of advanced technologies in water quality monitoring. The Workshop gave a privileged opportunity to exchange experiences and develop certain guidelines, but more importantly to establish a framework for cooperation on the European level between professionals involved actively in this field.