A REVIEW ON THE MEMBRANE RESEARCH ACTIVITIES IN ITALY

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Following the various research projects devoted to membrane science and technology in Italy in the early 80's; an interesting growth in the industrial research and industrial applications on different sectors characterizes the last years. CNR, ENEA, ENEL, and MURST have been sponsoring and/or collaborating to fundamental studies on membrane preparation transport phenomena and membrane process optimization. A specific example is the National Oriented Program in Fine Chemistry, sponsored by the CNR from 1982 to 1991-92, when about 28 different academic teams have been active. A positive fall out of these studies can be considered the presence of membrane based projects in all the current National Research Programmes in progress today and coordinated by industrial groups, leaders in their respective areas. Examples are the National Research Programs in Agroindustry, in Chemistry, In Textile Industry, etc. The industrial interest for membrane operations is also well documented by the growing presence of Italian Companies and Academic Research Teams in the projects sponsored by the European Union, in the IV and hopefully in the V Research Framework. These projects concern areas such as wastewater treatments, electrochemical applications, integrated processes, etc. No industry produces new membranes in Italy. RO, UF, MD, and ED membranes and modules are today totally imported from abroad from various engineering groups devoted to their assembling in plants of small and large sizes. Specific know-hows are developed in the electrochemical processes and, in particular, in the chloro - soda production. The creation of the Institute of Membranes and Chemical Reactors of the CNR is also a demonstration of the overall interest in the Country for this scientific and technological area. IRMERC activities are growing rapidly interfacing different industrial sectors with contributions in molecular separations and chemical conversions and in integrated systems.