efforts. Nonetheless, there are key areas such as artificial intelligence, natural language processing, fibre optic components, telecommunications networks, transmission technology, remote sensing and image analysis which represent various foci for the long term R&D efforts of small and medium sized Canadian information technology firms.

Canadian high technology companies, for the most part, view cooperative research initiatives cautiously but very necessary if they are to compete in global markets. In addition, such ventures are viewed as instrumental in market entry and expansion and in facilitating faster product development. The majority of Canadian firms (60) indicated Canada was the principal market for their products and services while only 12 companies indicated more than 60% of their activities were directed to off-shore markets. The U.S. was identified as the most active foreign market while Europe and Japan were identified by a much smaller proportion of the respondents. However, many of the firms, large as well as small ones, reinforced the importance of pursuing opportunities in the Pacific Rim for products, services and research activities. There seemed to be less awareness of the opportunities for R&D ventures with European firms.

Experience with cooperative research ventures and participation in long term pre-competitive projects was generally quite limited. Only a handful of the largest companies such as Northern Telecom, SRTelecom and Microtel have such experience. It was more common for international cooperation and joint ventures to be directed to product development and technology acquisition or transfer than longer term precompetitive R&D ventures. However, there was a great deal of interest in the potential for moving away from product development to the longer term strategic interests of pre-competitive R&D.

Cooperation for longer term pre-competitive R&D was considered suitable and desirable by most of the sampled companies. The areas where this should be focused were also specified although in a very general context. The main topic areas of interest included:

1) Image and Voice Synthesis/Pattern Recognition

2) Parallel Processing Systems

3) Expert Systems/Artificial Intelligence/Knowledge Based Systems

4) Radar

5) Sensors/Remote Sensing

6) Fibre Optics Components and Devices

7) Display Technology.

8) Encryption