

INTRODUCTION

In 1990, Canada exported more than 78 percent of its \$19 billion in mineral production. This total makes Canada the world's largest export of minerals. It is also the world's leading producer of nickel, zinc, potash and asbestos.

The Canadian mining industry assured Canada's competitive edge in the marketplace through development of the technology, equipment and engineering expertise needed to extract minerals economically from ore bodies located in some of the world's harshest environments.

About 70% of the output of the mining equipment industry in Canada is exported to the United States, Europe, Australia, Latin America and other countries. The Canadian industry is especially strong in hard-rock drilling, particularly underground diamond-drilling equipment.

Canadian firms have captured 60 percent of the world market in mining exploration equipment. They offer a complete range of the most advanced geophysical exploration equipment and mining-survey consulting services, including airborne surveys, ground-based geological and geophysical exploration services as well as mine engineering, ore treatment and metal processing.

The consulting services industry also exports substantially. From the highly specialized, one-person operations to the large, multi-disciplinary firms employing hundreds, millions of dollars of business is transacted abroad annually.

Canada has set the world standard for exploration drilling equipment, as it has with survey equipment. Most Canadian diamond core-drilling equipment is built to cut through the rock of the Pre-Cambrian Shield, the hardest in the world. Many Canadian drilling equipment firms also offer complete and customized, hands-on survey and ground-content analysis services.

In the field of ore extraction, Canadian manufacturers offer full supply capabilities for open-pit and hard-rock underground mining operations.

Many Canadian mines have enhanced their production rates by applying computer technology to underground mining techniques. Applications such as computerized mine planning and management models are now common in Canada, using databases of information gathered when the mines were in the exploration phase. This information is expanded as on-site drilling reveals more about the location and complexity of the ore body.

Computers are also used to plot optimum production targets. Many variables can be taken into account, including mineral prices, ore grades and material-handling capability.

Canadian manufacturers offer all essential equipment for ore concentration - from jaw and gyratory crushers to flotation cells and slurry pumps. Major equipment requirements for smelting operations are

custom-designed for user specifications and Canadian firms can produce the full range of smelting equipment on a very competitive basis.

Producers of mining equipment include some of Canada's largest manufacturers of heavy industrial machinery who bring vast experience and technological expertise to the custom fabrication of large mining equipment, often building to specifications adapted from standard plans.

Canadian mining firms are highly active in the research and development of new products. They have achieved significant break-throughs in the manufacture of underground utility vehicles, the electrification of underground material-transportation units, the remote control of materials-loading and transportation equipment and, as noted above, diamond-drilling equipment.

Canadian firms offer a complete range of the most advanced exploration, extraction and refining equipment, as well as consulting services. With the benefits of its past experience and the promise of its innovative research the Canadian mining equipment and services industry can supply everything needed to explore for mineral deposits, to mine ore in the harshest of geological environments, and to bring the minerals to market.