

Upon Canada's birthday



In June 1867, just three weeks before Confederation came into effect, notice was given "to all Her Majesty's loving subjects... that they are invited to celebrate the said first day of July as a DAY OF REJOICING". Two years later, in June 1869, the Governor General of the day, Lord Lisgar, issued a proclamation "at Government House, in the City of Ottawa" appointing "the FIRST day of July next — and every succeeding first day of July — as the day on which the Anniversary of the formation of the Dominion of Canada be duly celebrated.

For more than a century people drawn to Canada from all quarters of the globe and from many different countries have joined in efforts to make Canada a better place to live and work.

Some of the present-day achievements of their experience and participation in modern technological developments are shown to the world.



Canada's new DASH-8 aircraft built by de Havilland of Canada for the commuter market.

DASH-8 is a successor of the de Havilland's Twin Otter (1967), which was initially developed to serve Canada's northern areas where the terrain made rugged construction, ease of maintenance and short take-off and landing capacity mandatory.

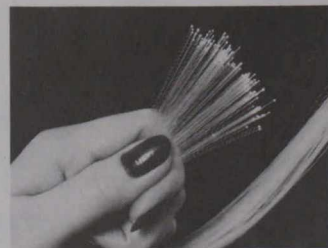
DASH-8, seating 36 persons, is a short-haul aircraft designed to operate on runways of approximately 914 metres. The first delivery is expected in 1984.



Spar Aerospace's Remote Manipulator System (RMS) for the NASA "Space Shuttle"

A consortium of Canadian companies led by Spar Aerospace Products Ltd., Toronto, has been commissioned by NASA to provide RMS

under the auspices of the National Research Council (NRC), Ottawa. The RMS is a 15-metre "arm" with six degrees of freedom and is attached to the side of the Space Shuttle's cargo bay. A tv camera at the end of the "arm" allows the crew members to inspect disabled or dead satellites from the comfort of the compartment. It will also allow the crew to inspect the Shuttle itself in the event of malfunctioning or of damage to the spacecraft. The RMS will be used to handle specialized equipment in space, such as satellites, and to transfer trapped astronauts from a disabled orbiter to a rescue orbiter.



Fibre optics

Frail strands of glass - may in the next few decades replace copper wires and cables in carrying telecommunications signals.

The future of Canadian telecommunications may be determined by tiny glass fibres about the thickness of a hair. These hairs will not be carrying those electrical pulses and waves which are used for electronic communications at present. They will be carrying

pulses of light. Light is a form of electromagnetic energy with a much higher frequency — and, therefore, greater information-carrying capacity than electricity.

Two Canadian manufacturers, Northern Telecom and Canstar, are capable of designing and installing complete optical transmission systems.



Microwave radiation test chamber at one of the National Research Council's laboratories in Ottawa

In communications, Canada's large size and small population have required the development of an advanced telecommunications technology. Systems designed by Canadians include the world's longest microwave routes and the first domestic satellite network currently operating with more than 100 domestic satellite earth stations.

The National Research Council of Canada (NRC) was set up by the Canadian Government in 1916 to undertake and promote scientific and engineering research.



Canadian surgical equipment is used in hospitals around the world

There are some 30,000 men and woman employed in the Canadian health care products industry, generally requiring relatively higher

education skills and standards than in many other fields.



Connaught Laboratories and the National Research Council have developed small implants that could eliminate a diabetic's need for daily insulin injections.

Many NRC initiatives have a direct application on the individual. Small discs containing pancreatic tissue which, when implanted in a diabetic person, eliminate the need for daily injections of insulin, have been developed with NRC assistance.

A screening device was developed by the National Research Council to detect curvature of the spine in children.

Another research project in the field of health care which was developed by the NRC.



Forestry is a big business in Canada. Log booms such as these in Vancouver form an interesting pattern.

In forestry, Canada is the world's leading producer of newsprint and the second largest producer of wood pulp, with a logging output of more than 142 million m³ per year. Abroad this experience has been in great demand. Canadian engineers have been active in forest development studies on all continents, from a C\$ 100 million integrated forest products complex in Turkey to a Java Teak development in Indonesia. Canada has also pioneered mass production of quickly-erected timber frame homes which are proving comfortable, cost-efficient shelter in all kinds of climates.