

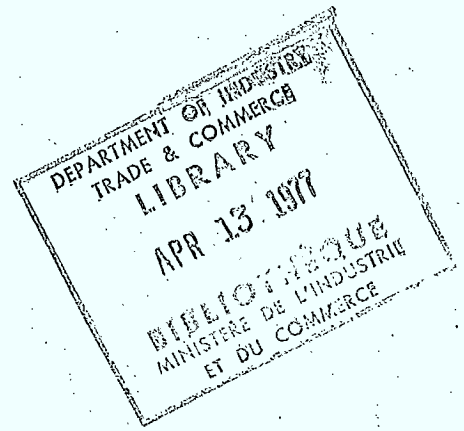
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REPORT OF THE
**CANADIAN
INDUSTRIAL MISSION
TO SWEDEN**

May 8 – 20, 1971

DEPARTMENT OF INDUSTRY, TRADE AND COMMERCE, OTTAWA, CANADA





REPORT OF THE
CANADIAN
Canada. INDUSTRIAL MISSION
TO
SWEDEN

May 8-20, 1971

DEPARTMENT OF INDUSTRY, TRADE AND COMMERCE
INTERNATIONAL DEFENCE PROGRAMS BRANCH

PREFACE

The purpose of this summary report is to circulate to a wide audience of Canadian industrial and government officials the results of an industrial mission to Sweden, May 8 to 20, 1971.

The primary aim of the mission was to identify opportunities for cooperative research, development and production in defence equipment and to advance the interests of Canadian companies in establishing business relationships with their Swedish counterparts.

It is the intention that future cooperation will lead to the expansion and more even distribution of trade between the two countries and will recognize the specialized industrial capabilities that have been developed in Canada.

Additional background material has been prepared on the results of this mission. It includes information about Sweden's defence policy, industrial capabilities, state of technology and system for development and procurement of defence requirements and highlights possible areas for RDP cooperation. It is available to interested companies on request from -

International Defence Programs Branch
Overseas Market Development Division
Department of Industry, Trade and Commerce
112 Kent Street - Tower "B"
Ottawa, Ontario
K1A 0H5

INTRODUCTION

The visit was made on the invitation of the Materiel Administration of the Swedish Armed Forces as a sequel to a Swedish visit to Canada in May, 1970.

The aim of the mission was to:

"Identify opportunities for cooperative research, development and production in defence equipment and to advance the interests of Canadian companies in establishing business relations with their Swedish counterparts".

COMPOSITION OF MISSION

The mission was led by Mr. T. M. Burns, Assistant Deputy Minister (External Services), of the Department of Industry, Trade and Commerce. The Department of National Defence was represented by Rear Admiral J. A. Charles, Deputy Chief for Force Development.

Industrial representation was made up primarily from the aircraft and electronic industries. Participation was planned to include representative companies which appeared to have the best prospects for early cooperative activities.

Detailed arrangements were made by the International Defence Programs Branch (IDPB) in conjunction with the Trade Commissioner Service and Fairs and Missions Branch. Follow-up action will be coordinated by IDPB.

The mission membership list is attached as Annex A.

MISSION WORK PROGRAMME

After an informal briefing by the Canadian Ambassador the group met with officials of the Materiel Administration of the Swedish Armed Forces (FMV) and the Research Institute of National Defence (FOA) for briefings on the Swedish system for the development and procurement of defence requirements. The mission subsequently visited the following major defence industries:-

AB Bofors
SAAB SCANIA
L.M. Ericsson Telephone Company
STANSAAB Elektronik AB
Svenska Radio AB
Philips Teleindustri AB
AGA Aktielbolag
FORENADE FABRIKSVERKEN (FFV)
AB Bolender-Munktell
Volvo Flygmotor

All are privately owned companies except **FORENADE FABRIKSVERKEN** which is owned by the Swedish Government and operated by the Swedish Ministry of Commerce. A complete list of the Swedish companies and government agencies visited including principal personnel contacts and addresses, is at Annex B.

A summary session, chaired by Director General Sten Wahlin of FMV, was held at the end of the mission to summarize progress made.

FINDINGS

The mission concluded that there were opportunities for increased collaboration with Sweden on research, development and production of defence products. The relevant Swedish authorities have indicated that they are prepared to consider cooperation in the development of certain types of

defence materials to reduce the costs of defence research, development and production. At present the Swedish defence budget is in the order of \$1.2 billion of which approximately \$400 million is allocated for capital equipment development, procurement and maintenance.

The basis for Swedish/Canadian cooperation was defined in principle in a Minute of Understanding exchanged between the Swedish and Canadian Governments in which it was agreed that:

There is a positive interest in the exchange of information and the development of procedures that will lead to defence cooperative research, development and production.

The aim of this cooperation is to reduce total costs for the research, development and production of defence materiel to the advantage of both countries.

The cooperation envisaged is concerned with defence materiel research, development and production which implies the timely exchange of technical information.

Cooperation should be initiated and prosecuted primarily by Swedish and Canadian industries.

Cooperation also could be stimulated and prosecuted by government authority to encourage industrial cooperative initiatives.

Canadian and Swedish authorities will inform their respective industries that proposals for cooperation will be treated with positive interest by the authorities.

A Working Group (two from Sweden and two from Canada) will be appointed to:

Work out lists of technical areas or subjects of interest for cooperation to include, where appropriate, time points for important decisions;

Investigate and report upon the degree to which a particular cooperative proposal is realistic;

Investigate and report upon whether or not there is a need for a Government to Government agreement to enable the exchange of restricted information.

The Working Group will meet initially in Canada before the end of 1971 and approximately twice yearly thereafter.

The key to initial success appears to be the development of mutual confidence through the successful conclusion of a number of small projects.

In the field of advanced technology opportunities were evident in the following areas:

- new light transport aircraft
- anti-submarine systems
 - VDS sonar and sonobuoy
 - hydro-acoustics
- sea-mine detection systems
- gas turbines, land and marine versions
- surveillance systems
 - elevated viewing platforms
- surveillance missile systems
- radio direction finding systems
- search and rescue electronics
- radio sub-systems or modules
- time division multiplex systems
- novel antennae arrays
- techniques in thick or thin film microcircuitry and MOS
- UHF communications
- modum and data communications
- combat information systems
- light tracked vehicles
 - tracked vehicle technology
 - oversnow vehicles
 - oversnow and light tracks
- Arctic clothing
- medical equipment
- gas masks

FOLLOW-UP ACTION

Government

On the government side the following actions are in progress or will be taken by the International Defence Programs Branch of this Department to ensure that the benefits of this mission are realized:

- preparatory action for the meeting of the Working Group, which will meet in Canada in late 1971, to work out lists of technical

areas or subjects of interest for cooperation has begun;

- all promising areas or subjects will be included on the lists developed for future cooperation;
- arrangements will be made in conjunction with DND for the exchange of appropriate information with Sweden on future equipment requirements;
- information will be forwarded to Canadian industries explaining the Swedish defence procurement system, detailing the list of promising areas for cooperation and opportunities that become evident;
- the impetus will be maintained through follow-up contacts by resident national representatives plus ad hoc progress review visits by appropriate government officials.

Industry

The following are considered to be the general initiatives which should be taken by all interested companies to derive the maximum returns from the favourable climate established by this visit:

- ensure that their areas of interest for future cooperation are forwarded for inclusion in the agreed list to be developed by the joint Working Group;

- inform the Materiel Administration of the Swedish Armed Forces (FMV) and appropriate Swedish companies of the capabilities and product lines of their company and any arrangements for representation in Sweden by partners or agents;
- keep the Canadian Commercial Counsellor in Stockholm and the International Defence Programs Branch of this Department informed of company initiatives so that appropriate government support can be provided particularly at the periodic meetings of the Working Group and government officials;
- arrange periodic visits by company representatives to the appropriate technical and purchasing officials of the Materiel Administration of the Swedish Armed Forces.

Proposals for cooperative RDP will be examined with a view to the technological and economic benefits that will accrue to Canada. Future cooperative projects may require support from both governments. Recommendations for support through appropriate departmental programs will be judged at the time based on the long range benefits for Canadian sales, employment and technology. Within this framework it is considered that there are a number of promising areas for future cooperation.

ADDITIONAL INFORMATION

As a result of this mission additional background information, including comments on Swedish industrial technology, capabilities and possible areas for RDP cooperation, has been prepared. It is available to interested companies on request.

POINT OF CONTACT

Point of contact for all matters in regard to RDP cooperation between Sweden and Canada is:

International Defence Programs Branch
Overseas Market Development Division
Department of Industry, Trade and Commerce
112 Kent Street
Tower "B"
Ottawa, Ontario
K1A 0H5

Telephone: (613) 995-8654

MEMBERSHIP LIST

CANADIAN INDUSTRIALISTS MISSION TO SWEDEN

MAY 8 - 20, 1971

Mr. T. M. Burns - Mission Leader
Assistant Deputy Minister
External Services
Department of Industry, Trade and Commerce
Ottawa, Ontario
K1A 0H5

Mr. J. K. Carman
General Manager
(Electronic Systems and Components Group)
Westinghouse Canada Ltd.
P. O. Box 510
Hamilton, Ontario

Mr. J. Carignan
Vice-President
Fathom Oceanology Limited
863 Rangeview Road
Port Credit, Ontario

Mr. D. V. Carroll
President and Managing Director
TMC (Canada) Ltd.
RR #5
Ottawa, Ontario
K1G 3N3

Rear Admiral J. A. Charles
Deputy Chief Force Development
Canadian Forces Headquarters
Department of National Defence
Ottawa, Ontario
K1A 0K2

Mr. C. J. Cox
Executive Assistant to the President
Marsland Engineering Limited
350 Weber Street North
Waterloo, Ontario

Mr. W. L. Gibson
Vice-President and General Manager
Flextrac Nodwell Ltd.
1201 - 42nd Avenue S.E., 24
P. O. Box 5544
Station "A", 9
Calgary, Alberta

Mr. J. van Hemert
Vice-President and General Manager
ABEX Industries of Canada Ltd.
(Aerospace Division)
3495 Cote Vertu Road
Montreal 382, P. Q.

Mr. E. E. McCullough
Director
Defence Sales
The de Havilland Aircraft of Canada Limited
Downsview, Ontario

Mr. J. A. Nicas
Canadair Limited
169 Ave Montjoie
1180 Brussels, Belgium

Mr. K. H. Sullivan
Vice-President, Marketing
United Aircraft of Canada Ltd.
P. O. Box 10
Longueuil, Quebec

Mr. W. C. Tate
Vice-President and General Manager
Garrett Manufacturing Limited
255 Attwell Drive
Rexdale 605, Ontario

Mr. J. F. Taylor
Chairman
Computing Devices of Canada Limited
P. O. Box 508
Ottawa 4, Ontario

Mr. T. Toczyłowski
President
General Precision Industries Ltd.
P. O. Box 88
Place Bonaventure
32 Brome Street
Montreal 114, Quebec

Mr. W. J. Beeman
Market Development Officer
International Defence Programs Branch
Department of Industry, Trade and Commerce
Ottawa, Ontario
K1A 0H5

Mr. R. E. Wright
Executive Assistant to the Assistant
Deputy Minister, External Services
Department of Industry, Trade and Commerce
Ottawa, Ontario
K1A 0H5

COMPANIES AND AGENCIES VISITED

ADDRESS

CONTACTS

Forsvarets Materielverk (FMV)
(The Materiel Administration of the
Swedish Armed Forces)
10450 Stockholm 80

Sten Wahlin - Director General

Forsvarets Forskningsanstalt (FOA)

(Research Institute of National
Defence)

10450 Stockholm 80

Tel. 08-613500

Cables Foageneral, Stockholm

Torsten Magnusson - Director General

Dr. B. Graber - Head,
Department of Physics

M. H. Lundquist - Head, Department
of Electronics

AB Bofors

S-690 20 Bofors

Tel. 05861360 20

Telex 73210

Claes-Ulrik Winberg - Group President

*Lenmart Palsson - Group Vice-President

Manufacturers of ordnance, ammunition flares, construction machinery, transport equipment, tools, machinery parts, wear parts for Crawler tractors, excavators, crushers and grinding mills, tool steels, high-grade constructional steels, stainless steels, high-temperature steels and alloys in the form of hot rolled bars, wire rods, forgings, castings, etc., electronic measuring devices, transducers for pressure, force and displacement, strain indicators, instruments and amplifiers, small transformers and electronic circuits, particularly resin encapsulated.

NOTE:- * Participated in Swedish Military and Industrial Group visit to
Canada, May 1970.

ADDRESS

SAAB-SCANIA

2 581 83 Linköping

Tel. 013/13 00 20

Telex 64940

CONTACTS

Dr. Curt Mileikowsky - President

Hans-Eric Lofkuist - Executive
Vice-President

Dr. Tore Gullstrand - Vice-President,
Director -
Aerospace Group

Manufacturers of aircraft and aircraft accessories, motor vehicles, electronic equipment, digital computers, numerical control of machine tools.

Telefonaktiebolaget L. M. Ericsson

L. M. Ericsson vag 4-8, Fack, 5126-11

Stockholm 32

Tel. 08/19 00 00

Telex 19910, 19911, 19012

Bjorn Lundvall - President

Christian Jacobaeus - Vice-President,
Research and Development

*Sven Fagerlind - Manager MI-Division -
Military Electronics

Manufacturers of telephone and telex exchanges, telephone sets, special telephone systems, transmission systems, military and industrial electronics, line material, telesignalling material, traffic signals, wires and cables, communication radio equipment, components, electricity meters.

STANSAAB Elektronik AB

Veddestavagen 13 S-170 -
23 Barkarby

Tel. 08/36 28 00

Telex 17892 STASAB S

G. Wedell - Managing Director

S. Skaraeus - Marketing Director

Manufacturers of display computer systems, HF, VHF, UHF communications

ADDRESS

CONTACTS

equipment, medical monitoring systems, air defence systems, air traffic control and like equipments for Swedish defence uses and export.

Svenska Radio AB

Alstromergatan 14, Fack S-102

Stockholm 12

Tel. 08/22 31 40

Telex 10094

*I. Ahlgren - Managing Director

B. Gamstorp - Manager, Market and Product Planning

Manufacturers of portable, mobile and stationary radio communication equipments, marine radio, radio controlled gateopener, radio paging systems, ground based and airborne radar, radar data handling equipment, missile electronics, space electronics.

Philips Teleindustri AB

Fack

S-175 000 Stockholm-Jakobsberg

*Bjorn Nilsson - General Manager

Jan Malmros - Technical Manager

Kjell Sundbom - Commercial Manager

Manufacturers of naval weapons, control systems for guns, torpedoes, anti-submarine weapons and missiles; navigation and landing aids; air data systems, and related cockpit instruments; broad band frequency agility radar; VHF and UHF radio transmitters; VHF and UHF t.v. transmitters.

AGA Aktiebolag

S-181 20 Lidingsö 1

Tel. 08/775 00 20

Telex 1133

* Arne Hult - Vice-President,
Electronics Division

ADDRESS

CONTACTS

Manufacturers of gases for industrial and medical uses, gas cylinders, industrial gas plant equipment, gas manifolds, welding and cutting apparatus, infrared, television systems, FM-radio communication equipment, flight reference instruments, optical and geodetic instruments, miscellaneous electronic equipment, lighthouse and beacon equipment, radio beacons and direction finders, medical and hospital equipment, automatic multi-channel chemical analyzers, diving apparatus.

FORENADE FABRIKSVERKEN (FFV)

E. Malmberg - Director General

Tullgata 8, Fack, S-631 87 Eskilstuna *S. Akselson - Technical Director

Tel. 016/11 02 00

Telex 409 75 Fabrverk Hk Esk

Manufacturers of ordnance precision roller chains (BS, ASA), conveyor-galle - and agricultural chains, leaf chains and special chains for various purposes, windows, entrances, doors, gates of steel or anodized aluminum, unit partitions and office walls of steel.

AB Bolinder-Munktell

Holger Danielsson - Chief Designer,
Tracked Vehicles

S-631 85 Eskilstuna

Gustaf Rooth - Sales Manager,
North America

Tel. 016/11 00 00

Telex 40997

Manufacturers of agricultural tractors, and combines, loading machines, eroders, forestry machines and tracked vehicles.

ADDRESS

Volvo Flygmotor

Trollhatton, Sweden

CONTACTS

Inge Loijdquest - President

Bergt Eriksson - Vice-President -
Commercial

Gunnar Broman - Chief Engineer R&D

Manufacturers and developers of afterburning version of Rolls Royce Avon (RM6) for Drakken Aircraft. Similarly with Pratt & Whitney JT8D (RM8) for Viggen. Additional products include hydraulic pump-motor units, steering boxes for Volvo cars. Research and development proceeding in rocket engines, ram jets and hybrid rocket engines.

INDUSTRY CANADA/INDUSTRIE CANADA



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