Association of Polish Engineers in Canada
Association des Ingénieurs Polonais au Canada
Stowarzyszenie Inżynierów Polskich w Kanadzie

Polish Engineers in Canada
Contribution to
Development and Prosperity of Canada

Commitment , Contribution, Cooperation,

Professionalism, Productivity, Perseverance

80 Anniversary of
Association of Polish Engineers in Canada

Prepared by Slawomir Basiukiewicz in honor for Polish Engineers in Canada

Polish Engineers in Canada

Contribution to every Field of Economy and Prosperity

Architects Builders DesignersAchievers
buildings, skysrapers, universities, roads, bridges, railways
Trade Professionals – Unsung Heroes
Aerospace and Aircraft Industry – space exploration, astronomy, Travel transportation
Automotive Industry
Army and Defence – aircraft, navy, tanks, armaments
Navy
Energy– fosil and nuclear power plants, distribution
Manufacturing - Factories
Elektronics and Computers
Cartography – maps, natural resources, mining

Institutions

PEO-Professional Association, NRC – Research Council, Patent Office
University Profesors - Science and Education
Agriculture and Food
Forestry and Lumber
Textiles and clothing

Sir CASIMIR STANISLAUS GZOWSKI,

5 March 1813 in St Petersburg an immigrant after the November Uprising 1863 in Poland.

Builder of Canada's INFRASTRUCTURE - railway, bridges and roads

Montreal to Kingston and a Kingston to Toronto railway

Railway bridge across the Niagara River linking Fort Erie and Buffalo

Welland Canal

GOVERNOR of ONTARIO 1896 to 1897

Canadian Society of Civil Engineers -president from 1889 to 1892

Sir CASIMIR STANISLAUS GZOWSKI

- Colonel engineer, sapper Kazimierz Gzowski. His contribution to the cultural and economic life of Canada is enormous.
- A member of the University of Toronto Senate, founder of Wycliffe College,
- Co-founder of the Canadian Society of Civil Engineers
- Co-founder of The Toronto Stock Exchange - Stock Exchange
- Co-founder of The Toronto Club, The Dominion Rifle Association,
- Founder and first president of the Niagara Park Commission.
- Noble title From the hands of Queen Victoria - the Order of St. Michael and St. George - the highest British decorations for his public service in the fields of education, economy, engineering and military.In 1896, Colonel Kazimierz Gzowski served as the Administrator and Governor of the Province of Ontario

Alexandre Édouard Kierzkowski

SOLDIER, ENGINEER, POLITICIAN

He was born in the Grand Duchy of Poznan on November 21, 1816
November 1831 insurgent. After the defeat, he emigrated to France, where in 1838 he obtained an engineer diploma at the École Centrale des Arts et Manufactures.
Emigrated and came to Canada in 1842.

Kierzkowski was a board member of the **Agricultural Society of Lower Canada** in 1852 and **vice president of the Mechanical Institute.**

A judge of peace and a major of the militia (local government units of territorial defense) in 1855, and on November 13, 1862, a lieutenant colonel.
He was a **shareholder of the St Lawrence and Atlantic Railway** built by Kazimierz Gzowski

Member of Parliament in 1867 was **elected to the House of Commons of Canada**

He died on August 4, 1870, brought a few handfuls of soil from Poland to Canada with the wish to be placed in his coffin, because he wanted to be buried in Polish Land

BRIGES – BRIGES DESIGN SCHOOL of MODRZEJEWSKI

Ralph Modjeski, 1914

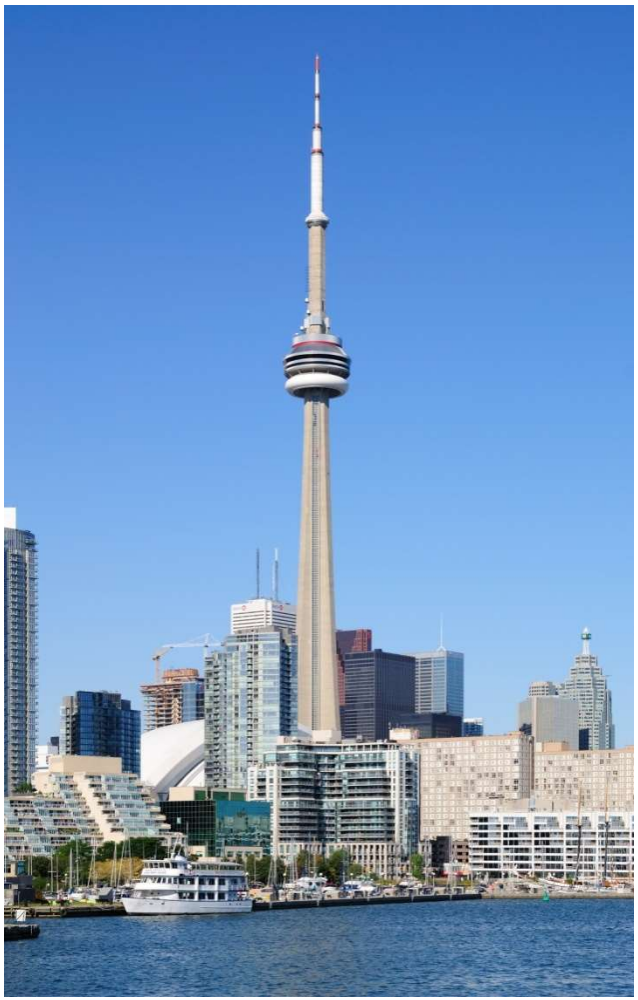
Ralph Modjeski
Civil Engineer

(born **Rudolf Modrzejewski**)
27 January, 1861
26 June, 1940

He was a Polish civil engineer who achieved prominence as a pre-eminent bridge designer. He took over the miss-designed Quebec Bridge after the 1907 disaster that killed 75 workers, and succeeded in creating the longest truss span in the world in 1917. It is still the longest cantilever bridge in the world.

Polish Canadian Engineers June 2018

POLISH ENGINEERS AND CANADIAN ICONS



Eng. A. Rozwadowski - In the years 1971-1976 he was the construction director of the CN Tower - the highest free-standing structure in the world.
CN Tower is the showcase of the city, the most iconic building in Toronto

Pearson International Airport. Toronto. Project of the expansion of the airport and the communication junction Director of the construction of Terminal 3 and Terminal 4

Władysław Wyszkowski

Gardiner Express Way – first highway in Canada

FIRST SUBWAY in Canada YONGE STREET SUBWAY LINE,.

Eng. Architekt Ludwik Alejski

„Skyscrapers”- Downtown Toronto.

Designer Toronto Dominion Bank Pavilion, **Eaton Center**, **Bell Canada Exchange Building** **Roberts Library**, **Roy Thompsont Hall**, University of Toronto Applied Science and Engineering Building, **Encyclopedia Britannica Building**, **Microwave Towers. Canadian Consulting Engineering Award**

POLISH ENGINEERS AND CANADIAN ICONS

Engineer Architect Stanisław Orłowski

Creator of the system of universities and colleges unique in the world in Ontario (22 universities, 106 campuses).

Lecturer and academic teacher, advisor to many international organizations and government institutions

A recognized international authority in Europe and America, winner of many awards and distinctions.

Member of many prestigious institutions: The Royal Institute of British Architects, Royal Architectural Institute of Canada, Council of Educational Facilities Planners;

Member of the Association of Polish Engineers in Canada

Twice President of the Board of the Canadian Polish Congress

Architect Stanisław Orłowski

Orlowski obtained a position in the **Ontario Ministry of Education as Chief Research Architect** with the School of Planning and Building Research Section

In 1972 he became the Architectural Officer and Associate Director in the Capital Support Branch of the **Ontario Ministry of Colleges and Universities**.

Mr. Orlowski was promoted to the position of Chief Architect of the Ontario Ministry of Colleges and Universities and in 1985 he became **Chief Architect of the Ontario Ministry of Education.**

Stanislaw Orlowski Master of Science degree from the Leicester School of Architecture, immigrated to Canada in 1952.

Chief architect of Ontario Ministry of Education and Ministry of Training, Colleges and Universities. His key professional achievement was the design, construction and supervision of Ontario's Community Colleges (1967-86). One of his unique international projects was **"Project School-to-School"** to raise standards in education and build colleges in Bermuda and in St. Vincent. consultant, he conducted thirty-eight major research studies in education.

As a In 1974, he was Canada's delegate to the International Union of Architects' Conference organized by UNESCO in Berlin.

Deeply engaged in community activities

- President of the Association Polish Engineer in Canada
- President of the Canadian Polish Congress (1986-90),
- Chairman of the Free World Polonia Coordinating Council (1986-94),
- President of the Millenium Foundation –raise funds to Polish History faculty at University of Toronto.
- He was head of the World Order of Scouts.
- Member of the Royal Canadian Military Institute and Empire Club of Canada;
- Fellow of the Royal Architectural Institute of Canada;
- Honorary member of the Ontario Association of Architects.

POLISH ENGINEERS Architects Ottawa Montreal

Z. M. STANKIEWICZ in 1953. He started to work for **the Department of Public Works and the Canadian Government Exhibition Commission**.
I
n 1958 Mr. Stankiewicz began private practice in **Ottawa and contributed to the architectural accomplishments in the capital city.** These included the Union Building, Sports Complex at Carleton University, a number of office buildings and large apartment complexes.

Mr. Stankiewicz was one of the three architects who designed the **Canada Pavilion** at **Expo 67 in Montreal**.
Here are some of the designs of Mr. Z. M. Stankiewicz:

- Australian High Commissioner's residence alterations;
- Bayshore Hotel, Ottawa, Ontario;
- Campbellton Art Gallery and Centennial Library;
- Chatham Public Housing, Chatham, New Brunswick;
- Charlo Airport, New Brunswick;
- Ottawa Civic Hospital Interns Residence;
- Rideau Terrace Apartments, Ottawa, Ontario;
- Ukrainian Museum, Saskatoon, Manitoba.

POLISH ENGINEERS AND CANADIAN ICONS

Engineer Bogdan Podgórniak PSE Podgorniak Structural Engineering”.

Project: „London Wharf”,
Skyscrapers in Floryda,
Apartment Buildins Hamilton

Skyscrapers in Mississuaga „Marilyn Monroe”- executive construction supervision (Korean Design)
MODERN CANADIAN ICONS

CONTRIBUTION OF POLISH ENGINEERS TO AIRCRAFT INDUSTRY IN CANADA

deHavilland Aircraft Canada
Canadair - Canadian Vickers Ltd.
Bombardier
National Research Council
National Aeronautical Establishment in Ottawa
Avro Arrow
Messier Dowty Equipment (**Dr. C. M. RODKIEWICZ**)
Menasco Aerospace (BF Goodridge) - Cybulski CEO
Computing Devices of Canada Ltd. (Com.Dev.) – world famous designer producer of aircraft instruments

TEST PILOTS - AVRO ARROW - Żurakowski , Potocki

POLISH AVIATION ENGINEERS – TIMES OF II WORLD WAR BUILD THE AVIATION INDUSTRY IN CANADA

Eng. W Jakimiuk - Chief Designer deHavilland – in Canada May 1940
Eng..W Czerwiński - former chief designer of PWS.
Eng. W. Korsak - former designer of the PZL Airframe Manufacturing Plant,
Eng. K. Księski - former director tech. "Avia" engine factory,
Eng. M. Kurman former director tech. PZL Airframe Manufacturing Plant,
Eng. Wiesław Stępniewski - former coordinator of the PZL Airframe Plant,
Eng. Fryc - former PWS production office employee,
Eng. J. Snawadzki - former head of the LWS Assembly,
Eng. E. Olszówka - former designer of devices at PWS.
Eng. Z. Jarnicki - former head of the PWS equipment section,
Eng. T. Tarczynski - constructor of the PZL Airframe Manufacturing Plant,
Eng. W. Kulej - specialist in electrical installations,
Eng. Z. Nowakowski - former manager of Production Preparation at PZL Airframe Manufacturing Plant.
Eng. A. Wakulski - machining department of the PZL Engine Factory

POLISH ENGINEERS ARRIVING TO CANADA DURING II world war support to war time effort

MOSQUITO BOMBER

In mid-1942, all the efforts of the company were devoted to organizing the production of the almost all-wood multi-purpose DH 98 "Mosquito" airframe of the British parent company. In preparing the production of this airframe, the experience of Polish engineers in wooden structures from the pre-war period (gliders) was a great contribution. **The Jakimiuk - Czerwiński - Stepniewski team developed a technology for replacing duralumin in the aircraft structure with spatially formed plywood**. Only this one idea allowed for a significant increase in production. Despite the necessity to introduce many modifications, the plant delivered the **first "Mosquito" in January 1943**. With the use of scientific organization of work with a **"chain" assembly system**, the production capacity **reached 80 planes per month**

POLISH ENGINEERS ARRIVING TO CANADA DURING II world war support to war time effort - Lancaster

Polish engineers also played a leading role in many other Canadian aviation companies. **Victory Aircraft**, founded in 1942 for the production of 4-engine **Avro "Lancaster" bombers**, took over the factory buildings of the National Steel Car Corp. Ltd in Malton near Toronto
Cyma engineer, former technical director of PWS, was involved in organizing and equipping this plant. Soon, engineers **Baranowski, Fabierkiewicz, Jaworski, and Sułatycki** joined him, and prof. of the Warsaw University of Technology, G.A. **Mokrzycki.** Thanks to them, and especially thanks to the organization and planning of Eng. Cymy, production was launched in a very short time. **The first Canadian "Lancaster"** was delivered to Great Britain in **September 1943**.
By the end of the war, 400 "Lancasters were produced."

Polish Aircraft Engineers after war - deHaviland

DHC-1 CHIPMUNK

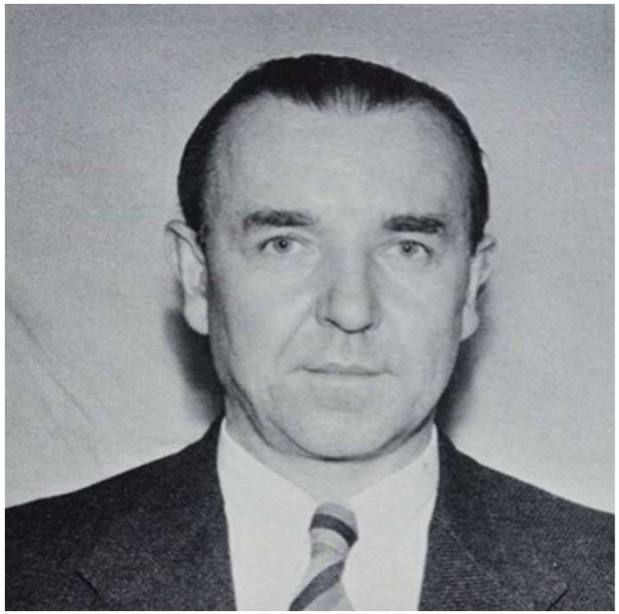

DHC-2 BEAVER

A majority of Polish aircraft specialists who came to Canada in the 1940 (42 persons) were assigned to DeHavilland, among them being W. Czerwinski, Dr. A. Crzedzielski, K. Ksieski, Z. Jarmicki, K. Korsak, W. Z. Stepniewski, and T. Tarczynski.

After war Mr. Jakimiuk was the leader of this project. With Mr. W. Stepniewski and other Poles they designed and constructed two aircraft: the Chipmunk and the Beaver for the difficult and harsh conditions of the Canadian North

Wsiewołod Jan Jakimiuk

Ooutstanding Polish Canadian French aviation engineer



Jakimiuk, the chief designer of deHavilland Canada, - a team led by Jakimiuk-Stępniewski designed the DHC -1 "Chipmunk", a modern training plane

DHC-2 "Beaver", multi-role airframe which was flown in 1947 and produced in the number of almost 2,000 copies. production of "Beaver" continued until 1965

DHC-3 "Otter yet another hit of the company - a light communication plane

POLISH ENGINEERS AND CANADIAN ICONS

Avro Arrow the pride and bitterness of Canadians
Avro Arrow the pride and bitterness of Poles
AVRO ARROW INNOVATIVE IN EVERY WAY

- **AVRO ARROW ORENDA PS-13 IROQUOIS ENGINES, - the best and most powerful engines on the continent**
- **PIONEERING ELECTRONICS - use of electronics for control systems (fly by wire)**
- **PIONEERING NAVIGATION SYSTEMS**
- **PIONEERING HYDRAULIC SYSTEMS**
- **NEW CHASSIS SYSTEMS**
- **PIONEERING STRUCTURE OF THE AIRFRAME AND DELTA WINGS - the entire upper part of the plane was the load-bearing part**
- **FOR THE FIRST TIME APPLICATION OF TITANIUM in the production of an engine**

POLISH ENGINEERS AND CANADIAN ICONS

CONTRIBUTION OF POLISH ENGINEERS TO THE AVRO ARROW PROJECT

Eng. Waclaw Czerwiński - section managers in the Stress Office, Project Engineer, and finally Chief Manager in the Preliminary Design Office

Dr. Eng. Eryk Kosko - assistant chief engineer in this company, specialist in strength calculations of aircraft structures - Stress Office - In the years 1946-1959 Avro Canada GasTurbine Division (Orenda Engines)

Eng. Z Cyma - Director for the HEAD of MAINTENANCE Chief Plant Engineer - inż. Fabierkiewicz his assistant

Dr. A. MURASZEW RESEARCH AND DEVELOPMENT OFFICE Office Manager Jet Engines Promoted to Chief Development Engineer - Chief Engineer Orenda Engines

Avro Arrow Engine - Orenda PS-13 Iroquois

The Orenda PS-13 Iroquois engines, which the Avro Arrow were equipped with, **were absolutely the best and most powerful engines on the continent.** - (best weight-to-thrust ratio, most efficient fuel consumption)

A. MURASZEW arrived in England after the war and earned a Ph.D. while working at the same time in the C.A.V. Ltd. in London. In 1951 he came to Canada to work for Orenda Engines Ltd. of Malton, Ontario, in the capacity of head of the Department of Fuel Control. Subsequently, Dr. Muraszew was promoted to the position of the **Chief Development Engineer** - jet engines. Research an d Development
Not very long before the cancellation of the Arrow fighter-bomber project, Dr. Muraszew was again promoted to the position of the **Deputy Chief Engineer of Orenda Engines**

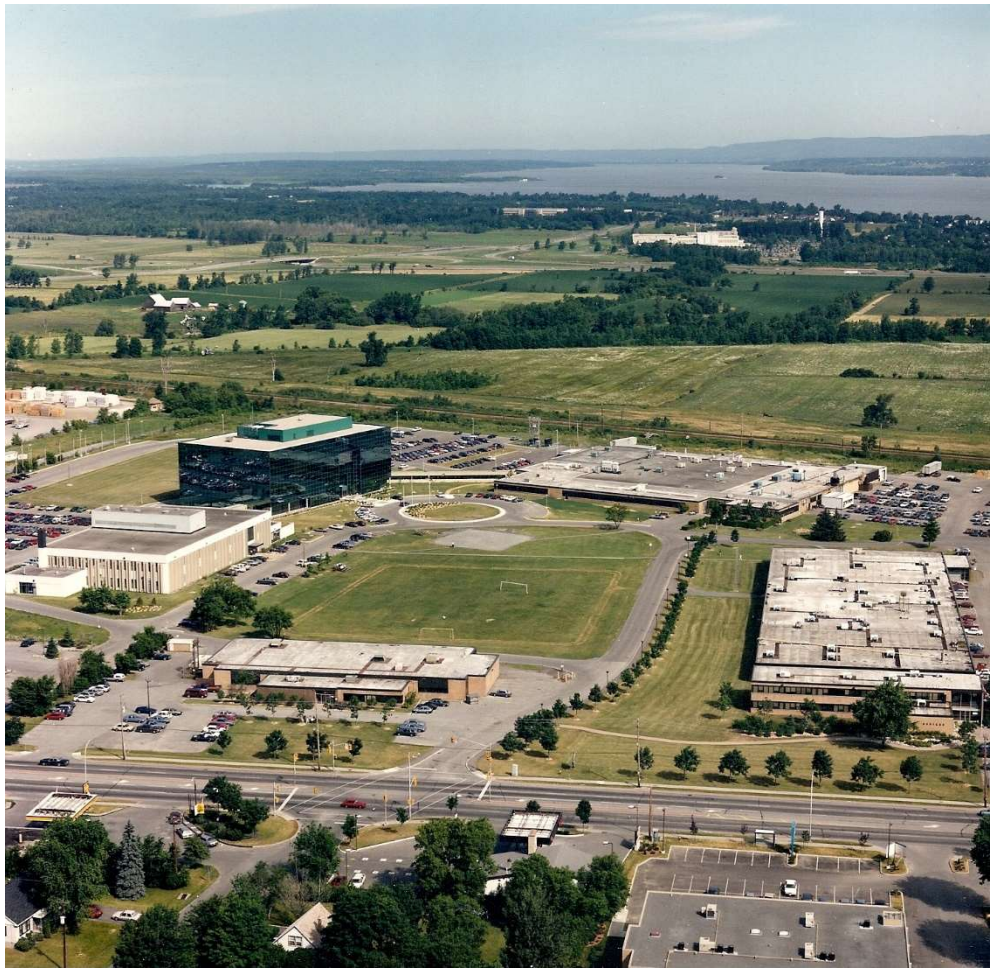
Computing Devices of Canada Ltd. (Com. Dev)

WORLD FAMOUS AVIONICS MANUFATCURER ESTABLISHED BY POLISH ENGINEERS – DESIGN OF AIRCRAFT INSRUMENTS

Norton-Spychalski i Świderski

Tony Świderski

Computing Devices of Canada today



POLISH ENGINEERS AND HELICOPTERS

WITOLD BRZOZOWSKI, a mechanical engineer, was awarded fist prize in a helicopter design competition. Companies for building his type of helicopter were set up in Canada and the U.S.

After arriving to Canada in 1946 **Witold Brzozowski** established his own company **Jet Helikopter** . where many polish engineers were employed among others prof. W Stepniewski. The team designed helicopter with jet operated rotor: US Patent 2601258. Company made first prototype with the very promising results, yet did not find any financing and the company ceased to exist

Brzozowski moved to **Piasecki Helicopter** as a **chief aerodynamic engineer**

POLISH ENGINEERS AND HELICOPTERS

Brzozowski moved to **Piasecki Helicopter** as a **chief aerodynamic engineer**

Piasecki H-16 ‘Transporter’ tandem helicopter

POLISH ENGINEERS AND HELICOPTERS

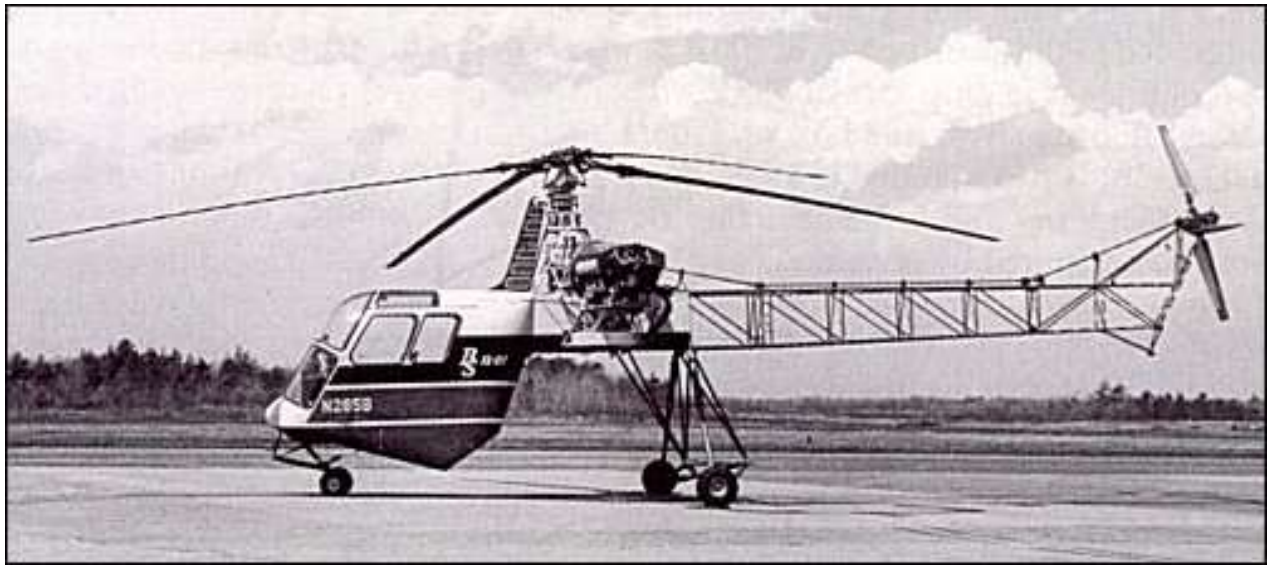
Eng. B.Sznycer The graduate from **Technical University of Warsaw (Politechnika).** He started the work in Canada for "Intercity Airlines"

Sznycer started a new company, Allied Aero Industries, in the USA to develop and build the **Omega BS-12** utility helicopter. **Designed and patented the "Omega" helicopter - the world's first flying crane (BS 12D). His patent (US No.2973923)**

This had a flying crane layout, with a forward four-seat crew pod and an open tubular rear fuselage and fixed tricycle undercarriage. A metal cargo box could be suspended beneath the fuselage mid-section. The **BS-12** used two 210hp Franklin engines positioned end-to-end above the rear fuselage. **The prototype flew on 29 October 1956**, and was followed by a revised version - the **BS-12B**

He moved to Sikorski helicopters where he worked on very similar design **Sikorsky S-64 Skycrane - an American twin-engine heavy-lift helicopter.** It is the civil version of the United States Army's CH-54 Tarhe.

POLISH ENGINEERS AND HELICOPTERS



Eng. B.Sznycer, a graduate of the Warsaw University of Technology and a former employee of LOT Polish Airlines patented the "Omega" helicopter - the world's first flying crane (BS 12D). His patent (US No. 2,973,923) was used by Sikorsky Helicopters Corp., which created the S-64 Skycrane - giant helicopter with a payload up to 10,000 kg.

POLISH ENGINEERS AND HELICOPTERS

MR. W. Z. STEPNIEWSKI

In 1946 Mr. Stepniewski switched from the fixed to rotary-wing aircraft by joining **Jet Helicopter Corporation of Canada.**

In 1947 he joined Boeing Vertol Company as chief of aerodynamics in the USA and remained with that company until his retirement, serving in various positions, e.g. **Director of Advanced Research**. During his retirement he remained associated with Boeing as a consultant.

The VZ-2 (Boeing Vertol 76). This machine was conceived as an inexpensive flight research aircraft with the single purpose of demonstrating the basic feasibility of the tilt-wing concept.

Boeing Vertol CH-46 Sea Knight

He was also the designer of tandem rotor helicopters which have two large horizontal rotor assemblies mounted one in front of the other like the Boeing Vertol CH-46 Sea Knight

Mr. Stepniewski lectured on helicopters and Vertical Take-Off and Landing (VTOL) planes. **Professor at Princeton University. He taught graduate courses on Rotary-wing Aerodynamics and Dynamics**

POLISH ENGINEERS AND HELICOPTERS

MR. W. Z. STEPNIEWSKI, after his arrival in Canada, was employed in DeHavilland of Canada as the **head of Aero and Stress Divisions of the Engineering Department**, reporting directly to W. J. Jakimiuk, Chief of Engineering.

During that period Mr. Stepniewski participated in the conversion of the Mosquito aircraft to American engines, to North American standards and to the **development for mass production of this redesigned plane.**

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POLISH ENGINEERS AND HELICOPTERS

MR. W. Z. STEPNIEWSKI

The Boeing CH-47 Chinook is an American twin-engined, tandem rotor, heavy-lift helicopter developed by American rotorcraft company Vertol and manufactured by Boeing Vertol

Polish Aircraft Engineers

ERYK KOSKO

Dr. ERYK KOSKO 1943-46 Ecole Polytechnique de Montreal, Assistant Professor of aircraft design.
1946-59 A.V.Roe Ltd., later Avro Aircraft Ltd, where he held the position of Assistant Chief Engineer. **designed and built the well known Avro Arrow fighter-bomber**
Dr. Kosko, as **senior research officer with the National Research Council**, worked on the basic analysis of structures, both in the field of aeronautical and civil engineering

Dr. Kosko published many papers and was a guest lecturer at several universities. After his retirement from the National Research Council, Dr. Kosko was a very successful and distinguished consultant, primarily in complicated stress problems.

Dr. Kosko **lectured at several universities** in the following subjects: construction of airplanes, dynamics of machinery and general mechanics. Dr. Kosko wrote and published over 30 papers, such as Vibration Analysis of ANIK Satellite Structure, Structural Analysis of Multi-Hinged Control Surfaces and The Numerical Determination of Transient Temperatures in Wind.

Polish Aircraft Engineers

W. CZERWINSKI

W. CZERWINSKI After arriving in Canada in 1941, was appointed almost immediately a group leader and a project engineer with DeHavilland Aircraft of Canada Ltd.
The company worked on the **redesign of a wooden airplane, the famous Mosquito**, a long range fighter-bomber, to adopt it to American engines.

In 1943 Mr. Czerwinski resigned from DeHavilland to become **Chief Engineer** and co-owner of Canadian Wooden Aircraft Ltd.
After the war, Mr. Czerwinski joined the **A, V. Roe Company designing the first Canadian fighter**, the Arrow, of which he was one of the main designers. After the cancellation of the Arrow program, Mr. Czerwinski joined the design office of the **supersonic aerodynamics section** of the National Research Council in Ottawa.
In1966 he joined the Institute of Aerospace Studies at the **University of Toronto**.

Academically, Mr. Czerwinski delivered numerous lectures to the Toronto University extension. From 1946 to 1959 he acted as a special lecturer at the University of Toronto Aerodynamical Branch.

Polish Aircraft Engineers

W. Z. STEPNIEWSKI

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Polish Aircraft Engineers

W. Z. JARMICKI

in 1941 Mr. **W. Z. JARMICKI** was hired by the DeHavilland Aircraft of Canada as a project engineer in charge of **re-designing aircraft systems, such as oil, fuel, compressed air** for the Mosquito aircraft which was being adapted to receive American engines.

After the armistice in Europe, Mr. Jarmicki was employed as a design engineer by the Dominion Magnesium Ltd., searching the Canadian market for new applications of magnesium products.

In 1953 he became the chief engineer of the Light Alloys Ltd. and when this company was purchased by Dominion Magnesium, he became the plant manager. He served in this capacity until 1970 when the company was purchased by Falconbridge Nickel Mines.

When the company was sold in 1972 to Maligne of Canada Ltd., Mr. Jarmicki began to work as a consultant for the federal government in the field of standardization of various kinds of equipment for the Department of National Defense.

Polish Aircraft Engineers

ADAM JAWORSKI

Dr ADAM JAWORSKI a distinguished service in the 303 Polish Fighter Squadron

Dr Jaworski`s first position in Canada was at the **National Research Council as an engine specialist.** He later moved to the Economic Policy and Research Branch of the Department of Transport, where Dr. Jaworski had responsibility for the fiscal policy of the Aviation Branch. Dr. Jaworski repeatedly recommended **landing fees for planes** on Canadian airfields but his most important achievement was calculating "the Canadian Space rentals" for most of the airlines. The federal government accepted his position that all the foreign airlines using Canadian space as well as Canadian radar, radio and other navigational facilities should **pay rental fees** (it should be noted that Canada was the shortest distance between Europe and the Eastern United States on the "great circle route").

All the airlines agreed to pay with the American airlines being the last to comply.

Dr.Jaworski represented Canada at several international conferences concerning aviation policy.

AUTOMOTIVE INDUSTRY
The Engine of Canadian Economy

HUNDREDS OF POLISH ENGINEERS ARE EMPLOYED IN AUTOMOTIVE INDUSTRY - Designers Managers

ASSEMBLY PLANTS
GM
FORD
HONDA
TOYOTA
Chrysler – Fiat Mercedes

Automotive Parts suppliers MAGNA –

National Research Council

WIND TUNEL – National Research council **Dr. J. LUKASIEWICZ**, head of the High Speed Aerodynamics Laboratory at the National Research Council in Ottawa, he published many papers on shock tube theory and applications and, in addition, was responsible for the original development of an economic high perforance, sub-, trans- and super-sonic wind tunnel type in support of supersonic aircraft and missile projects in Canada.

National Research Council

DR. H. WISNIOWSKI, after the Polish and French campaign, was interned in Switzerland. After the war he was engaged in the Swiss diesel industry and then emigrated to Canada in the fifties. He started to work in the **National Research Council as a senior research officer in charge of the Diesel Engine Laboratory.**

Dr Teodor . J. BŁACHUT -arrived in Canada from Switzerland in 1951 on the invitation of the National Research Council (NRC) to **organize its photogrammetric research section.**

Dr. J. LUKASIEWICZ, **chairman of the Supersonic Tunnel Association (1961-62), chairman and founding member of the Aeroballistic Range Association (1961-62) and consultant to the aerospace industry and Science Council of Canada.** responsible for developing in this new laboratory the world's largest wind tunnels

Dr. KAZIMIERZ ORLIK-RUCKEMANN - **National Aeronautical Establishment (NAE) in Ottawa**, Canada, where he was became Head of the High Speed Aerodynamics Laboratory in 1958. In 1963 he became **Head of the NAE Unsteady Aerodynamics Laboratory.**, **Supersonic Tunnel Association (President 1963/64**). Dr. Orlik-Ruckemann was particularly active in the **NATO Advisory Group for Aerospace Research and Development (AGARD),**

L. I. KAWERNIŃSKI Assistant to the Director of the NRC - National Research Council in Ottawa Institute for the Marine Dynamics. Ship Laboratory

National Aeronautical Establishment

Dr. KAZIMIERZ ORLIK-RUCKEMANN - Aerospace Aeronautical Research

Dr. KAZIMIERZ ORLIK-RUCKEMANN was born in Warsaw, Poland, and received his M.Sc., Tekn.Lic. and Tekn.D. degrees in **Aeronautical Engineering** from the Royal Institute of Technology (KTH) in Stockholm, Sweden. After several years with the Division of the Aeronautics of KTH and at the Aeronautical Research Institute of Sweden (FFA), he joined the **National Aeronautical Establishment (NAE) in Ottawa**, Canada, where he was became **Head of the High Speed Aerodynamics Laboratory** in 1958. In 1963 he became **Head of the NAE Unsteady Aerodynamics Laboratory,** set up to work on dynamic stability problems and aircraft dynamics. He served on several international organizations such as the Commonwealth Advisory Aeronautical Research Council (CAARC), IEEE Committee on Instrumentation in Aerospace Simulation Facilities, AIAA Committee on Ground Testing and Simulation, The Technical Cooperation Program (TTCP, Panel on Maneuvering Aerodynamics), **Supersonic Tunnel Association (President 1963/64**), and many others. He is a Fellow of the Canadian Aeronautical and Space Institute (CAST), and a Fellow of the American Institute of Aeronautics and Astronautics (AIAA). He authored or co-authored some **130 scientific papers** and reports, lectured in 16 countries and was the recipient of the **1986 AIAA Ground Testing Award.**

National Aeronautical Establishment

Dr. KAZIMIERZ ORLIK-RUCKEMANN - Aerospace Aeronautical Research

He conducted the first dynamic experiments on **lifting configurations at hypersonic speeds**. He anticipated the increased importance of 'dynamic' stability when considering a high angle-of-attack flight. In the past 20 years, he has been **principal investigator on several NASA and USAF** research contracts and cooperative projects.

An active aerodynamicist and laboratory manager with many interests. In the early 1970s he was involved in the work on the **space shuttle and designed and operated a helium hypersonic wind tunnel.** He did analytical work on oscillating bodies and dynamic viscous pressure interactions, worked on sublimating models such as the free-flying model, and conducted studies of blast effects. In his laboratory significant work was completed in **aero-physical chemistry**, with application to aviation security and aerial spraying. He is a Professional Engineer in the Province of Ontario, a member of the Board of Directors of the Von Karman Institute (VKI) in Belgium and a docent in Aerodynamics at the Royal Institute of Technology in Stockholm.

Acted as **consultant to NASA, JPL, USAF, FFA** (Stockholm) and gave seminars at UCLA, NOL, AEDC, AFWAL, Rand, NASA, Carleton and research establishments in Sweden, Holland, Belgium, Greece, China and Japan.

Active in the **NATO Advisory Group for Aerospace Research and Development (AGARD),** which he joined in 1974 as a member of Fluid Dynamics Panel (FDP). Chairman of this panel for a year and subsequently chaired the AGARD Panel

He was **awarded AGARD von Karman Medal in 1989** for his outstanding contributions tom aerospace sciences and to NATO/AGARD.

National Research Council

Dr. C. M. RODKIEWICZ Research Engineer

Dr. C. M. RODKIEWICZ's A Research Engineer with the English Electric Company working on a trans-sonic wind tunnel. In 1954 he moved to Canada and he worked initially for **Dowty Equipment** (Canada) Limited as Technical Assistant, **involved in developing the undercarriage of the CF 105 aircraft.** In 1955 he joined the staff of the Ryerson Institute of Technology in Toronto and remained there until 1958 when he joined the staff of the new **Department of Mechanical Engineering in the University of Alberta, Edmonton.**
in 1956 he completed a survey of the manufacturing processes of the major industrial plants in Ontario and Quebec

In 1959 he worked with the Engine Laboratory of the National Research Council in Ottawa and in 1960 he worked for the Engineering Division of the **Atomic Energy of Canada Ltd. in Chalk River, Ontario.**

Dr. Rodkiewicz wrote numerous papers in the area of Fluid Mechanics and Heat Transfer, in particular on Hypersonic Flight, Lubrication, and Blood Flow and Ice Formations.

National Research Council

Diesel Engine Laboratory

DR. H. WISNIOWSKI, he was engaged in the Swiss diesel industry and then emigrated to Canada in the fifties.
He started to work in the National Research Council as a **senior research officer in charge of the Diesel Engine Laboratory**.

Dr. Wisniowski worked on radial grids with water injection for suppressing the noise of jet engines. He obtained patents on instruments preventing combustion oscillations {screech, and was a **pioneer on the use of Canadian crude oils in the locomotive diesel engines. Dr. Wisniowski invented and tested a fast and easy method of assessing diesel locomotive cylinder wear.**

National Research Council NAVY

L. I. KAWERNIŃSKI served in the Polish and Royal Navies during the war. he was awarded several Polish and British military decorations.
In 1950 Mr. Kawerninski emigrated to Canada and, in 1957, he joined the **National Research Council in Ottawa** (NRC) to work in one of the laboratories of the National Aeronautical Establishment. he moved to the Ship Laboratory.
He organized and participated in **sea trials on all three oceans surrounding** Canada and on the Great Lakes. His work included projects as diverse as experiments on towed sonar platforms, on towing icebergs and ice studies in the Canadian Arctic.
Mr. Kawerninski was assigned to the C.C.G.S. "John MacDonald" as an observer during the **"Manhattan's" maiden voyage through the North-West passage** in 1969.
Mr. Kawerninski **performed trials for the Canadian Navy, Italian Navy and the US Coast Guard.** He was a member of a number of Canadian delegations to international conferences in the S.S., Canada and Europe. In recognition of his achievements and contributions to the field he was elected, in 1968, a **member of the Society of Naval Architects and Marine Engineers.**
Mr. Kawerninski's distinguished career at NRC led him to the position of the **Assistant to the Director of the NRC Institute for the Marine Dynamics**. He is the author of many scientific papers and a holder of several patents

Entrepreneurs-INDUSTRIAL COMPANIES Established by Polish Enginreers

THE POLYTRONICS CO. LTD.
CANADIAN WOODEN AIRCRAFT CO. LTD.
BEACONING OPTICAL AND PRECISION CO.
TAYMOUTH INDUSTRIES LTD
SELECTRA INDUSTRIES LTD.
E.G.M. MACHINE PRODUCT LTD.,
FORFAR LTD.
HYD - MECH
CYCLONE MANUFACTURING
COMPUTING DEVICES OF CANADA LTD

GENUM CORPORATION - Semiconductor Manufacturer- Burlington Ontario..
Walter Pieczonka – founder and president of the company

ENGINEERING SERVICES INC - Employee of Laboratory of Robotics and Automation at University of Toronto
Paweł Kuzan -Elektronic Eng, Jack Wierciński i Mark Budnicki Mech Eng
Best Canadian Engineers in 1998 - Design Engineering Gold Award

Entrepreneurs-INDUSTRIAL COMPANIES Established by Polish Enginreers

CYCLONE – world class aircraft parts manufacturer

WSS Technologies - class aircraft parts

PROMATION – atomic energy aircraft parts

MAKRODYNE – world class hydraulic press

TRANSDUCTION – industrial computers automation

HYD-MECH - Word class metal cutting bandsaws

GENUM CORPORATION - Semiconductor Manufacturer-Burlington Ontario.**Walter Pieczonka** – founder& president

CYCLONE MFG.

CYCLONE MFG. IS IN THE TOP 1% OF THE LARGEST PRIVATELY OWNED AEROSPACE COMPANIES IN NORTH AMERICA

Cyclone Manufacturing we founded in 1964 in aerospace in 1978

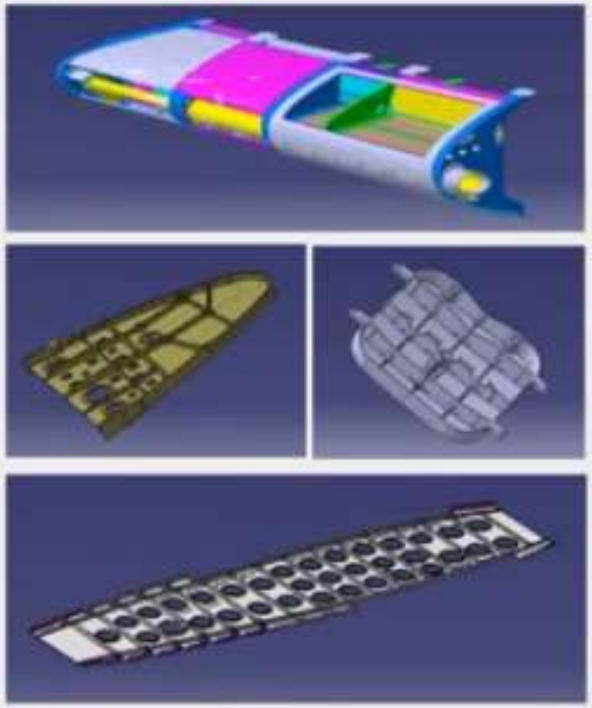
- **Cyclone Manufacturing is privately owned and operated since 1990**
- **Vertically integrated (machining, fabrication, assembly & processing)**
- **OEM approvals with Airbus, Bombardier Boeing, Embraer, Lockheed Martin Five Fadllties - 400,000 SO FT (37,000 sq m) in Canada & Poland 750 eployees**

CYCLONE MFG

COMPANY OVERVIEW

Cyclone Manufacturing specializes in manufacturing of small to large structural aerospace components and assemblies

- **Wing Structures** – Wing Box Ribs, LE & TE Ribs, Spars and Wing Skins
- **Flight Control Surfaces** – Trailing Edge Shrouds, Actuator Fittings, Winglet, Spoiler and Aileron Structural Machined and Sheet Metal Components
- **Aerostructures** – Frames, Bulkheads, Longerons, Fittings, Beams
- **Assemblies** – Doors, Hinge, Fitting and other structural Assemblies



Polish Canadian Engineers June 2018

STAN JASINSKI – Hyd-Mech
Word class metal cutting bandsaws

Stan Jasinski Masters of Mechanical Engineering at the Silesian Polytechnic University.

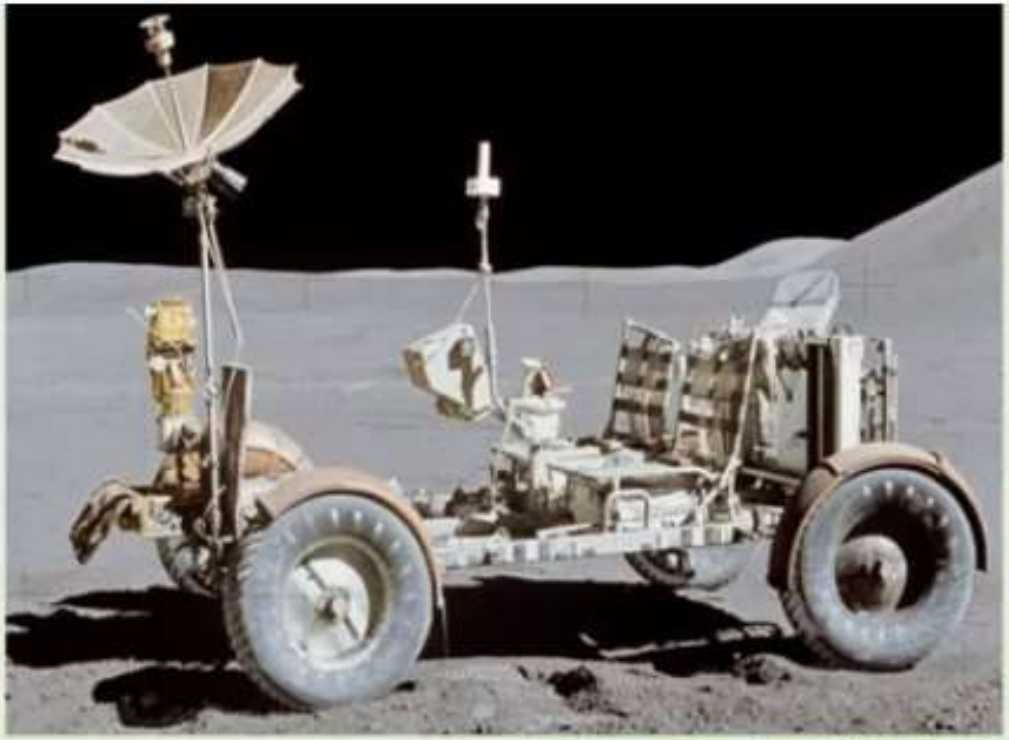
Hyd-Mech became a leading manufacturer of metal cutting bandsaws with manufacturing plants in Canada and the United States

Stan developed technology and build his machinery

Stan actively hired Polish immigrant engineers, welders, machinists and mechanics for the next 20 years. . He was a true Polish-Canadian. He enjoyed helping fellow Poles in Canada.

Stan planted the seed for the Villa Polonia project in Brampton, Ontario. Stan and Ruth were major contributors to the Woodstock Hospital Foundation and Polish Church in Brampton

SPACE – LUNAR ROVING VEHICLE



https://www.pinterest.co.uk/pin/912683299246859076/

The first Lunar Roving Vehicle was used in the Apollo Program in 1971.
This configuration was based on work by Mieczysław Gregory Bekker.

SPACE – LUNAR ROVING VEHICLE

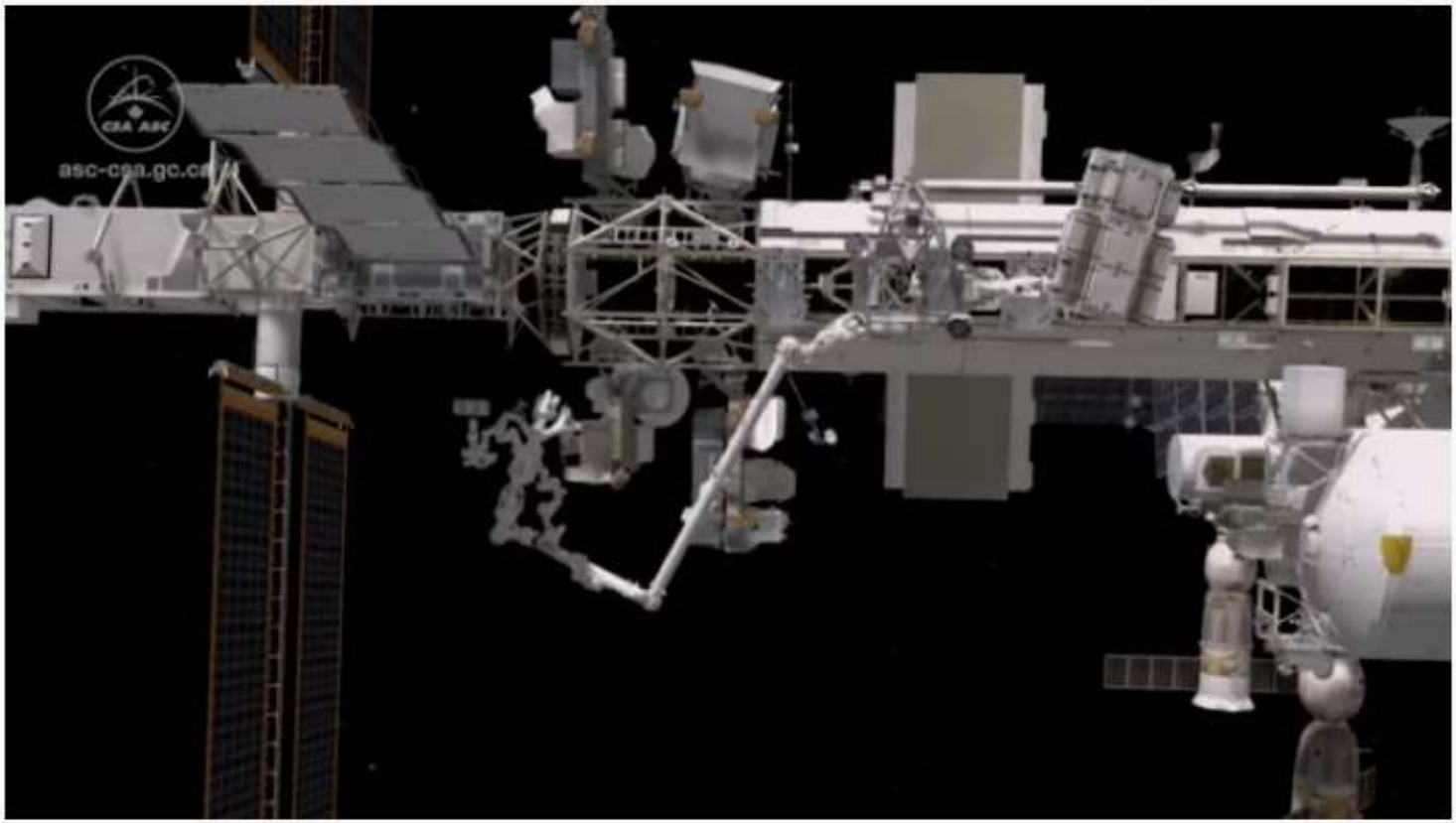
Mieczysław Gregory Bekker
(1905–1989)

Mieczysław Bekker was born in Poland and graduated from Warsaw Technical University in 1929.

In 1942 he accepted an offer from the Government of Canada to move to Ottawa to work on armored vehicle research.
He joined the Canadian Army in 1943 as a researcher and reached the rank of Lieutenant Colonel.

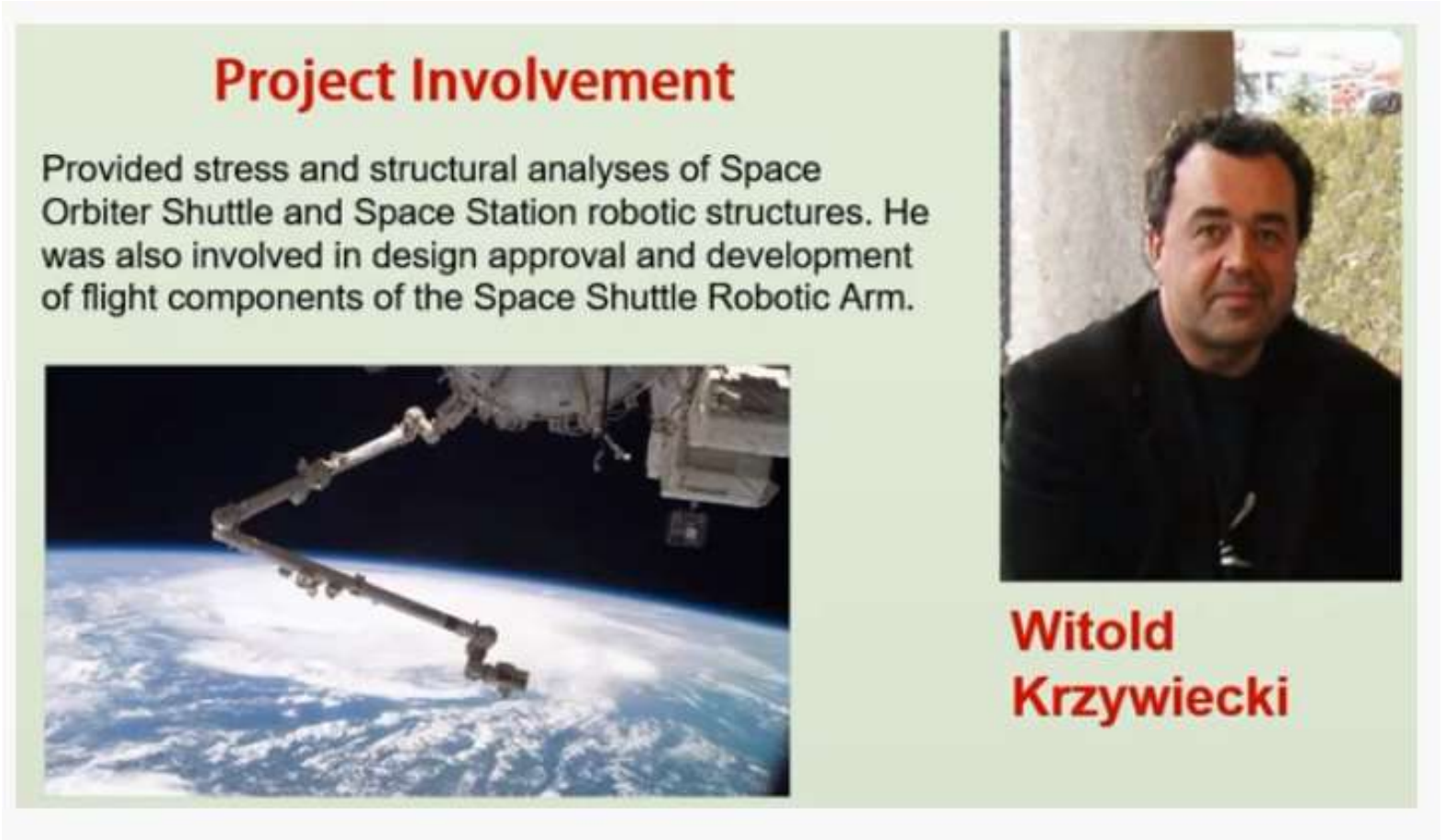
In 1956 he moved to the US.

SPACE - CANADARM



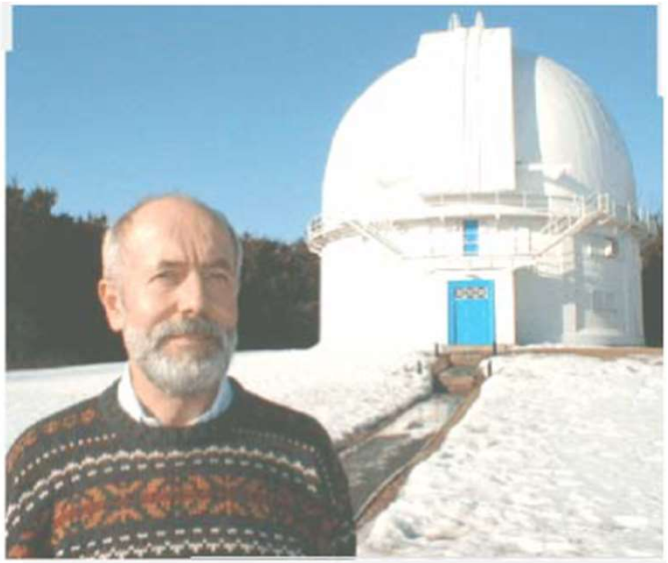
Polish Canadian Engineers June 2018

SPACE CANADARM



Project Involvement
Provided stress and structural analyses of Space Orbiter Shuttle and Space Station robotic structures. He was also Invowed in design approval and development of flight components of the Space Shuttle Robotic Arm.

PROF. SŁAWOMIR RUCINSKI ASTRONOMER



Prof. Slawomir Ruciński is a graduate of the **Faculty of Physics at the University of Warsaw.** There he began his scientific career. he worked in the years 1965 - 1980.
He received his **doctorate and habilitation** and became a professor also at the University of Warsaw

In the meantime, he worked and did research internships at the University of Florida, Gainesville, USA (1970-71);

National Research Council Research Associate, Victoria, BC (1975-77). He worked as a Visiting Scientist at Max-Planck-Inst., Munich, Germany (1980-82) and, Senior Research Associate, University of Cambridge, UK (1982-84).

He has been working since 1984 and is associated with **the David Dunlap Observatory at the University of Toronto. and York University.**
Participant and member of many international astronautical organizations, including the chairman of JSSA, (1995 - 1997). Joint Subcommittee on Space Astronomy (Canadian Space Agency), and Hubble Space telescope Time Allocation Committee.

From 2006, President International Astronomical Union Commission 42 (Close Binary Stars).2004, Prof. Ruciński initiated a project to **create a very small nano-satellite, "BRITE Target Explorer", BRITE.** It will be a 20cm cube in size with a small telescope lens to observe the variability of about 300 of the brightest stars with an accuracy greater than 0.1%

ENERGY POWER PLANTS

SIEKIERSKI – Konstruktor CANDU FUELING MACHINE
Heart of CANDU REACTOR

Testing facility at Bruce Power Station
Reactor mock-up designed by **Stefan Baginski**

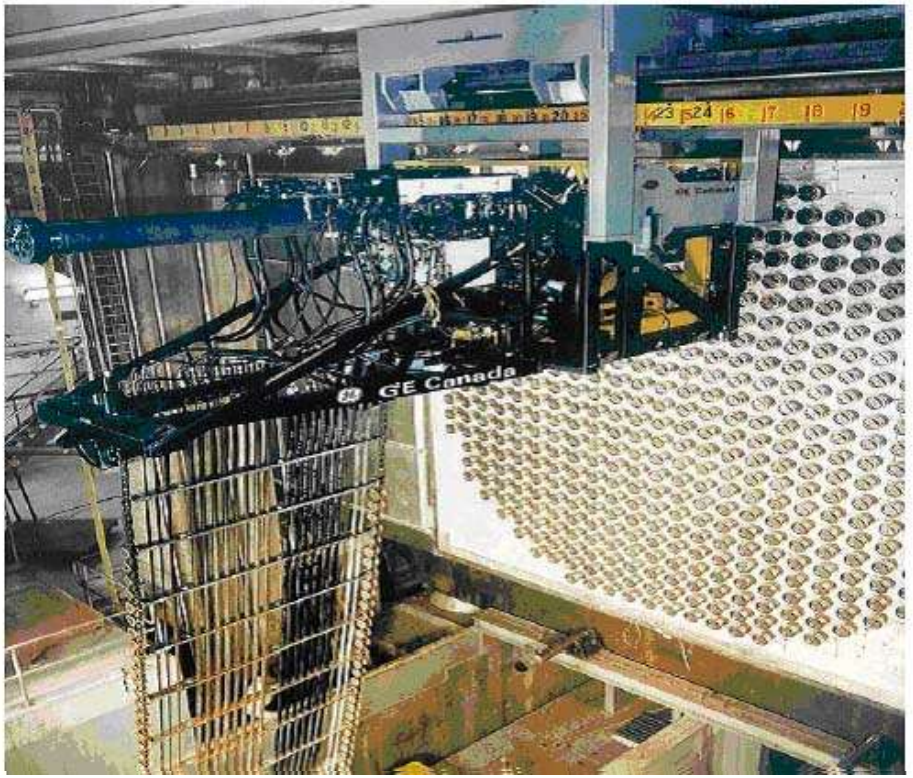
W. A. KRAJEWSKI - The Ontario Hydro Electrical Commission (Hydro) is one of the biggest power producer

MR. KRAJEWSKI was in charge of the complete structural design of the thermal fossil fueled power generating stations, namely; Lakeview (2400 MW), Lambton (2000 MW), Nanticoke (4000 MW), Lennox (2000 MW) and Welseleyville (2000 MW).

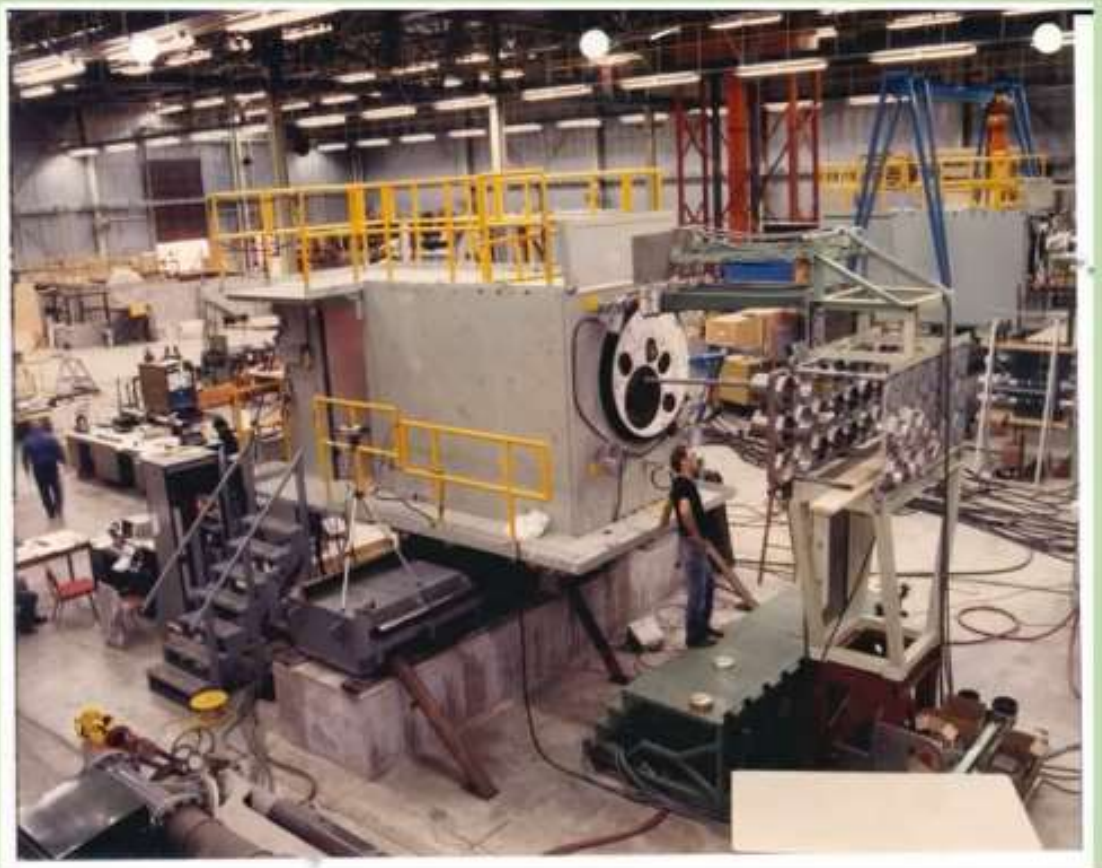
ENERGY

SIEKIERSKI –CANDU FUELING MACHINE

Bruce Plant – Fuelling Machine



NUCLEAR ENERGY



Testing facility at Bruce Power Station

Reactor mock-up designed by Stefan Bagiński

ENERGY

Stefan F. Bagiński

P. Eng. (retired)

Past and present membership in:

- Association of Professional Engineers of the Province of Ontario.
- Verein Deutsche Ingenieure (VDI).
- American Society of Mechanical Engineers.
- Royal Association of Swedish Engineers.
- Association of Polish Engineers in Canada.

Polish Canadian Engineers June 2018

NUCLEAR ENERGY

Dr. Bagiński proposed extremely mobile robots climbing between pressure tubes in very restricted spaces.

The moving robot provides structural support for tools that were cutting the Pressure Tube and re-welding it back again.

This operation was filmed for the Federal Safety Regulator who issued the operational licence based on records of work performed.

Polish Canadian Engineers June 2018

ELECTORONICS

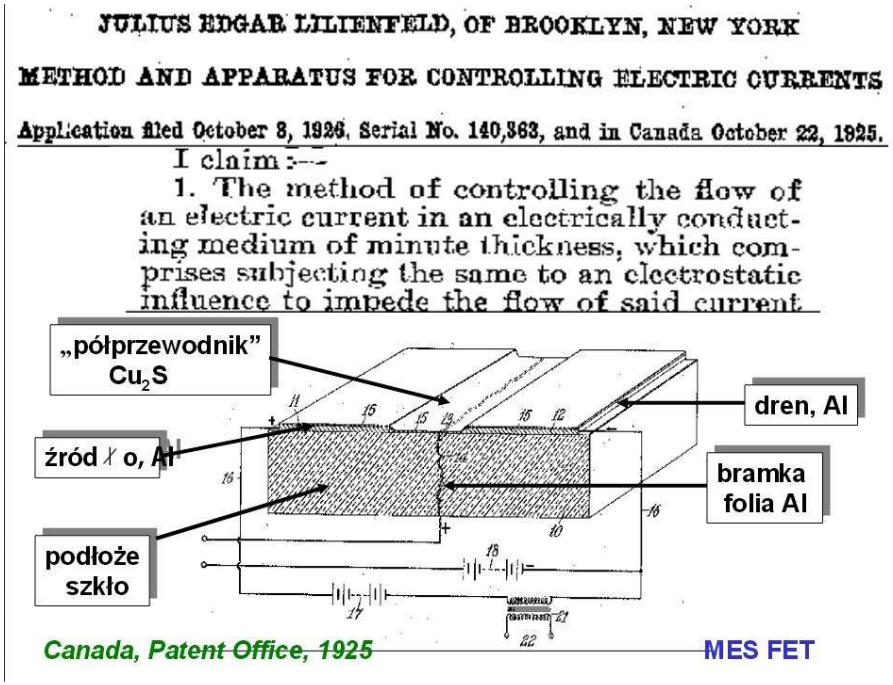
THE BELL TELEPHONE COMPANY OF CANADA

Z. H. KRUPSKI arrived in Canada in 1948, after serving with distinction in the Polish Army and the Royal Air Force during World War II.
He joined the Bell Telephone Company of Canada Ltd. as an Assistant Engineer
In 1961, he was appointed Chief Engineer in Toll Area.
In 1964, Mr. Krupski became chairman of the Trans-Canada Telephone System.
During his chairmanship construction of the interprovincial route was started and the military communication system was installed across Canada.
Mr. Krupski retired from the Bell Telephone Company as **the vice-president of Computer Communications and Network Services.**

RYSZARD MALINOWSKI – graduated from Politechnika Szczecina
Vice President R&D INTEL – started in Canada with LSI – Large Sale Integration

JULIUS LILIENFELD – Born in Lwów 1882
1925 patented tranzystora in Canada - 30 years before William Bradford Shockley, John Bardeen, Walter Brattain – received Nobel Price

Juliusz Lilienfeld inventor of the transistor



JULIUS EDGAR LILIENFELD, OF BROOKLYN, NEW YORK

METHOD AND APPARATUS FOR CONTROLLING ELECTRIC CURRENTS

Application filed October 8, 1926. Serial No. 140,363, and in Canada October 22, 1925.

I claim:—

1. The method of controlling the flow of an electric current in an electrically conducting medium of minute thickness, which comprises subjecting the same to an electrostatic influence to impede the flow of said current

Canada, Patent Office, 1925

MES FET

Nobel in Physics in 1956

William Bradford Shockley, John Bardeen, Walter Houser Brattain - for semiconductor research and the invention of the transistor – yet they couldnot patent it – patent belongs to **Lilienfeld**

Juliusz Lilienfeld born in Lviv (1882-1963) - inventor of the transistor

1905 at the University of Berlin, obtaining a doctoral degree in In the same year he started working at the Physical Institute at the University of Leipzig, where he obtained his habilitation in 1910.

In 1925 in Canada and in 1926 in the USA, he applied for a patent for a system that is a protoplast of a junction transistor ....

Correspondence in Polish with Maria Curie –Skłodowskiej – Nobel Prize winner

THE BELL TELEPHONE COMPANY OF CANADA

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Z. H. KRUPSKI arrived in Canada in 1948, after serving with distinction in the Polish Army and the Royal Air Force during World War II.
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In 1964, **Mr. Krupski became chairman of the Trans-Canada Telephone System**. During his chairmanship the main microwave system was completed, construction of the interprovincial route was started and the military communication system was installed across Canada.

Mr. Krupski retired from the Bell Telephone Company as the vice-president of Computer Communications and Network Services.

NORTHERN TELECOM COMPANY

MR. S. TROJANOWSKI. In 1960 Mr. Trojanowski **Northern Telecom Company** to work as a **member of a scientific staff in their research and development** laboratories in Ottawa.
Herewith are listed the project designs that Mr. Trojanowski coordinated:
1.very low noise (0.8 to 1.5 DB) pre-amplifier for the trans horizon communication system,
2,upgrade of the existing 4 GHz microwave transmitters
3,design of a modern microwave radio system, later called RA Radio System.
In 1970 British Columbia to work for the BC Telephone Company. His major responsibilities included:
1.engineering control of the construction of the new (trans-Canada microwave system,
2,engineering control of the design of a back-haul microwave system from Cowichan Lake satellite ground station to Vancouver,
3.planning of the trans-provincial communication cable system (co-axial or fibre optics),
4,development of the computer programs for calculation of transmission parameters of a microwave system,

PULP AND PAPER INDUSTRY

MR. A. SZWARC, a chemical engineer, arrived in Canada in 1942 and, after a lengthy wait (he contacted over 80 firms), finally got a job in the pulp and paper industry. In a short time he became an indispensable employee. Eventually Mr. Szwarc became the **Technical Director of one of the plants of the biggest pulp and paper concerns.**

He discovered a new process for manufacturing paints, varnishes and coatings which, being of superior quality, did not require natural resins as starting materials.

ARMAMENTS

A. ROSCISZEWSKI Small Arms. However, he moved quickly to the position of Designer, then became Chief Designer of Development Engineering and finally Mechanical Manager. His illustrious career with this company spanned 25 years.

In less than one year of working for Small Arms Mr. Rosciszewski designed a Training Rifle, which was adopted by the **Department of National Defence** in preference over an English Training Rifle

Mr. Rosciszewski received an award for this design and a personal thank you letter from G.D. Howe, the Minister of Munition and Supply, and the **"Czar" of the whole Canadian industry at that time.** The letter dated, August 12, 1943 noted "…. Training Rifles will not only be supplied in quantity but also at such a low cost in comparison with similar rifles produced elsewhere…."

The last ten years of his career Mr. Rosciszewski spent as an arms' specialist, consultant and Canadian delegate to the armament commission consisting of Belgium, Canada, Great Britain and the United Staets.

CARTOGRAPHY MAPS RESOURCES MINING

MR. HENRY E. MINDAK Canadian cartographer. Chief Cartographer in the Geographical Branch of the Department of Energy, Mines and Resources. Gold Medal, awarded by the Royal Canadian Geographical Society to the Hon. Alastair W. Gillespie, Minister of Energy, Mines and Resources is one of the very few **Canadian cartographers**. Born in Poland, he emigrated to Canada in 1951. He was offered a cartographic position with the **Department of Energy, Mines and Resources, Surveys and Mapping Branch.**

DR. J. GAJDA in 1943. In 1956, he was appointed Chief of Geographical Research. He created and designed the first three-dimensional map of Canada.

DR. BLACHUT, who started, operated and guided the world famous photogrammetric center in the National Research Council of Canada showed that "too much geography", as Prime Minister W. L. Mackenzie King used to say, could be overcome in Canada

CARTOGRAPHY MAPS RESOURCES MINING

MR. HENRY E. MINDAK is one of the very few Canadian cartographers. Born in Poland, he emigrated to Canada in 1951. He was offered a cartographic position with the Department of Energy, Mines and Resources, Surveys and Mapping Branch.
Mr. Mindak compiled and designed
First Edition maps of: "NEW BRUNSWICK", published in 1962,
Modern world projection map entitled "THE WORLD". In 1963
"NORTHERN HEMISPHERE", published in 1965,
"THE NORTHWEST TERRITORY AND YUKON TERRITORY" published in 1966.,

First Edition of a completely new International Map of the World. This map was produced to United Nations specifications and was published in 1965.

Chief Cartographer in the Geographical Branch of the Department of Energy, Mines and Resources. he was responsible for the planning, design, cartographic execution and editorial approval of cartography for the **National Atlas of Canada.**

TERRITORIAL EVOLUTION OF CANADA" maps covering the time span from the year 1667 to 1949. For Canada's Centennial Year in 1967

CARTOGRAPHY MAPS RESOURCES MINING

MR. HENRY E. MINDAK

"THE NATIONAL ATLAS OF CANADA" and "L'ATLAS NATIONAL DU CANADA" n 1974

In 1976 Mr. Mindak was invited to Rideau Hall, where His Excellency The Rt. Hon. Jules Leger, Governor General of Canada, presented him with the Gold Medal, awarded by the Royal Canadian Geographical Society

He designed maps for "Geographical Map Series" and other maps such as
"CANADA RELIEF",
"LAKES, RIVERS AND GLACIERS",
"CANADA ENERGY",
"CENSUS DIVISIONS", and
"INTERNATIONAL Relations". For the, Pan-American Institute of Geography and History,
"AMERICA LATINA, MAPA GENERAL DE TRANSPORTES", published in 1968,
Royal Canadian Mounted Police Centennial 1873 - 1973,
"MOUNTED POLICE STATIONS & PATROLS IN NORTH-WEST TERRITORIES", published in 1973.

Mr. Mindak won **3 Public Service Awards** and 4 certificates of excellence granted by the Technical Publication and Graphic Art Competitions.
Mr. Mindak is the co-founder of the **Ontario Institute of Chartered Cartographers**, Ottawa Branch and Fellow of the Royal Geographical Society, London, England.

CARTOGRAPHY MAPS RESOURCES MINING

MR. HENRY E. MINDAK

In 1955 Canadian Book Publishers from Toronto approached **Prof. B. Zaborski**, Head of the Geography Department at Ottawa University requesting names of graduates willing to produce maps for historical and geographical text books and atlases. The response was negative. With great hesitations Mr. Mindak accepted the offer and produced **over 1,000 maps which were published in scientific journals, books, atlases**.

The following publishers published Mr.Mindak's works:
J. M. Dent & Sons, Thomas Nelson & Sons (Canada) Ltd.,
Madawaska Valley Regional Tourist Council,
McClelleand and Stewart Ltd.,
Conseil des Comtes Unis, L'Orignal, Ontario, National Research Council, and John Hopkins Press, Baltimore, United States.

CARTOGRAPHY MAPS RESOURCES MINING

DR. R. GAJDA W. H.ENOCH

DR. R. GAJDA joined the Department of Mines and Technical Survey in 1943 and in no time his knowledge and drive moved him to the position of **Chief of Cartology, Geographical Branch.**

Dr. Gajda specialized in Canadian Arctic surveys and research. He was attached to exploratory missions that, in 1948-51, were sent to Canada's arctic and Western Greenland jointly by Canada and the United States. In later seasons Dr Gajda spent several months in the Arctic supplied only by air.

He is considered to be an **expert on the Arctic** and has written several papers on this subject. One of the first "**tri-dimensional**" maps of Canada is his creation.

W. H.ENOCH completed several surveys of the north during the 1950s and studied and prepared a geographical description of part of the Mackenzie River Valley. During these studies, he discovered at Melville Island, 1730 miles north of Winnipeg, traces of prehistoric settlements not previously known, and belonging to pre-Dorset culture that goes back to 2000 B.C.

CARTOGRAPHY MAPS RESOURCES MINING

Dr. J. M. ZARZYCKI,

Dr. J. M. ZARZYCKI, P. Eng., received his Masters of Engineering (geodesy) from the Warsaw Technical University in 1948, and his Doctorate of Technical Sciences (photogrammetry) from the Swiss Federal Institute of Technology in Zurich in 1952. He came to Canada that year as a post-doctoral fellow at the National Research Council.

In 1953 he joined Canadian Aero Services Ltd., becoming **Chief Engineer** in 1954 and Executive Vice-President and Director in 1964. In 1966 he co-founded Terra Surveys Ltd. of Ottawa and was Director, **Vice-President and President of Terra** 1974 when he accepted the position of **Director, Topographical Survey Division, Department of Energy, Mines and Resources Canada**. I

n 1985 he joined the Ontario Ministry of Natural Resources as Director, Surveys, Mapping and Remote Sensing Branch, a position he held until his retirement

During 1969-75 Dr. Zarzycki was a visiting professor of photogrammetry at Laval University, Quebec City.

During his professorial career Dr.Zarzycki was engaged in photogrammetric mapping, railway location, geodetic and resource surveys in Canada, South America, Africa, the Middle East, Australia and the Caribbean. He pioneered the application of digital methods in photogrammetry, automated cartography, and development and implementation of Geographic Information Systems

CARTOGRAPHY MAPS RESOURCES MINING

Dr Teodor . J. BŁACHUT

Dr Teodor . J. BŁACHUT arrived in Canada from Switzerland in 1951 on the invitation of the National Research Council (NRC) to organize its photogrammetric research section. This section has since become one of the leading photogrammetric research centres in the world. Numerous important methods and novel photogrammetric instruments trace their origins there Dr. Błachut holds several patents on various instruments invented by him. In addition to his scientific work, Dr. Blachut has been very active in Canadian, American, Pan-American and international learned societies

In 1970, Dr. Blachut was elected a fellow of the Academy of Science of the Royal Society of Canada. He has been conferred with many medals and awards and holds honorary memberships at several universities, -institutes, and learned societies. Dr. Blachut is the author of over 130 publications and several books on geodetic, photogrammetric and cartographic subjects published in English, French, Spanish, Polish, German, Chinese and Japanese.

In 1988 Dr.Blachut was invited by the United Nations Economic Commission for Africa to carry out extensive studies in Eastern and South-Eastern subregions of Africa to formulate a basic programme of integrated general land information systems.

Polish Engineers – Food & Agriculture

J. LIPSZYC, specialist in glucose and starches, designed and organized the first manufacturing process in Canada of these products from potatoes, and also organized the first manufacturing plant for glucose from wheat.

E. M. ROSTEN, a chemical engineer, organized the first manufacturing plant on the american continent for the production of alcohol from paper manufacturing waste material. He became the permanent adviser of the US Senate's commissions for Agriculture and Forests.

OTTAWA

- Borowczyk-Forester, Jan
- Czartoryski, Jerzy
- Czerwiński, Wacław
- Domańska, Jadwiga
- Dubiski, Stanisław
- **Andrzej Garlicki**
- Gawalewicz, Mirosława
- Grygier, Tadeusz
- Henoch, Władysław
- Judek, Stanisław
- Kos-Rabcewicz-Zubkowski, Ludwik
- Kosian, Ryszard
- Krzywda-Polkowski, Józef
- Kwaśniewski, Tadeusz
- Łukasiewicz, Juliusz
- Meier, Jerzy
- Mazurkiewicz-Kwilecka, Irena

OTTAWA

- Namieśniowski, Konrad
- Orlik-Rueckemann, Wilhelm
- Pier-Pierścianowski Zbigniew
- Podgórecki, Adam
- Podoski, Wiktor
- Prokop, Stanisław
- Ruebenbauer, Jerzy
- Ruebenbauer, Zofia
- Ruszkowski, Andrzej
- Sajewicz, Jan
- Stankiewicz, Roman
- Szyrynski, Victor
- Sznuk, Stefan
- Wojciechowski, Jerzy
- Wrażej Władysław
- Wyczyński, Paweł
- Zaborski, Bogdan
- Zajac, Józef
- Zarzycki, Jerzy
- Znamirowski, Roman

Jerzy Andrzej Maria Duke Czartoryski

He was one of the heroes of the Battle of Bzura, directing fire at the attacking German tanks

Studies at AGH in Krakow and geography at the University of Poznan. He started working as the secretary of the Atlas of Alberta project and held this position in the years 1965-1970.

Head of Geomatics Research, at the Fisheries and Oceans ministry in Ottawal nnovative work on computer systems for the production of marine charts and marine navigation.

He conducted genealogical and heraldic studies of his own family, which resulted in one in contemporary Poland, he included the genealogy of the Czartoryski family in his Genealogy of Descendants of Members of the Great Sejm
President of the Ottawa District of the KPK and the Council of the KPK .. participated in the works of the World Polish Forum - she worked on the great program of the renewal of Poland. Contributor. Polish Latin America Organizations (USOPAL). Co-founder of the media center and media platform for the Canadian and global Polish community - TVinterPOLONIA

Andrzej Garlicki - Scientist, engineer, community leader

Andrzej Garlicki with the Polish forces participated in the battles of Monte Cassino, studied for a year at the Royal Technical University of Turin, Italy, and Polish University College in London, England, obtaining a Master's degree in mechanical engineering.
he worked in industry,achieved chief engineer position at London Concrete Machinery Co., in London, Ontario
In 1964, Ottawa was hired by the Federal Government as research officer -Department of Environment and later for the National Research Council of Canada. He earned a Ph.D in mechanical engineering from the University of Ottawa in 1976. Dr. Garlicki is the author or co-author of fifty-five scientific and technical publications

Engaged in the activities of the Polish community, Garlicki served as senior adviser, vice-president and president of the Polish Canadian Congress (1996-98), and has been national president of the Polish Combatants' Association since 2003. He is active in the Canadian Forces Reserve as a Captain of the Royal Canadian Engineer
Recipient of a number of decorations, - Gold and Silver Cross of Merit, Cross of Valour, Bronze Cross of Merit, the Home Army Cross, Cross of Monte Cassino, 1939-45 Italy Star.Medal for Outstanding Contributions to Engineering Applications of Mechanics, and Special Research Achievement Award of the National Research Council 1989-90.
Dr. Garlicki received the Order of Canada in 1985, and Canada's Medal for the 125th Anniversary of Confederation in 1992. He was awarded the Knight's, Officer's and Commander's Crosses of the Order Polonia Restituta

Mjr pil. Inż. Jan Stanisław Borowczyk-Forester

As a certified engineer of machine systems, he worked for 17 years at the **Ministry of Post in Ottawa, Calgary and Victoria**, dealing with the design and implementation of new operating systems **improving the functioning of postal exchanges** in, among others, Montreal, Halifax, Vancouver, Winnipeg and Quebec City. After raising his qualifications, he secured a good engineering career in increasingly higher positions in the Canadian Post Office administration. In 1977 he was appointed the head of engineering and architecture planning at the Ministry - Department of Indian and Northern Affairs in Ottawa, and from 1981 he was a senior policy advisor in the field of engineering and architecture

TEXTTILE INDUSTRY

GEORGE M. BORNET
He received his B.Sc. Tech. degree with First Class Honors in textile technology in 1948 and his M.Sc. degree in 1965 from the University of Manchester (England).

George M. Bornet, associate director of Technical Research, International Institute for Cotton, Manchester, England, was granted the Award of Merit by the American Society for Testing and Materials, Philadelphia, Pa. The Award was conferred on Bornet by the Society's President Francis J. Mardulier and Executive Secretary Thomas A. Marshall, Jr. on May 31, 1968 at an ASTM meeting in Zurich, Switzerfand
Bornet received the **award "for his productive service to ASTM** technical activities, especially for his untiring contributions in developing and writing textile test methods, his thorough and articulate manner of presenting his views on many problems in an interesting, intelligent and convincing manner."
He was a technical assistant at the Canadian Celanese Ltd. in Sorel, P.Q., Canada from 1948-51 and was a research engineer with the Ontario Research Foundation
He is a member of ASTM and since 1955 has served on Technical Committee D-13 on Textile Materials, is a member of a number of its subcommittees

UNIVERSITIES AND COLLEGES

Mr. STANISLAW ORLOWSKI obtained a position in the Ontario Ministry of Education as Chief Research Architect with the School of Planning and Building Research Section. Mr. Orlowski was promoted to the position of Chief Architect of the Ontario Ministry of Colleges and Universities and in **1985 he became Chief Architect of the Ontario Ministry of Education.**
Stanislaw Orlowski, as the Chief Architect working for the **Ontario education system, directed the building of 22 Campuses of Colleges of Applied Arts and Technology,** which was **the largest project of that type in Canada.** Also as a Visiting Professor of Architecture, Mr. Orlowski delivered over 30 lectures to undergraduate and graduate students in Europe.

Prof. G. A. MOKRZYCKI is a former professor and dean of the Aerodynamics Department of the Warsaw University in Poland. He lectured **at Toronto University and organized the Aeronautical Department**, including its laboratories. Other founders of Department

Prof. Mokrzycki, Dr Kosko, dr. Pawlikowskim i inż. Grzędzielskim founders of Aeronautical Department at University of Montreal with support of of Ministry of Public Education Quebec.

Prof. Dr. GLINSKI Taught electronics at McGill University. Teaching at McGill, Dr: Glinski was approached by the **University of Ottawa to organize for them "from scratch" an Electrical Department**. Dr. Glinski did this job in record time and soon the Electronics Department of the University of Ottawa developed a deservedly good name in Canada

UNIVERSITIES AND COLLEGES

In 1968 Prof. Dr. LUKASIEWICZ was appointed Professor of Aerospace Engineering and Associate Dean, Research and Graduate Studies, College of Engineering, **Virginia Polytechnic Institute and State University in Blacksburg, Virginia.** In 1971 he joined the **Faculty of Engineering at Carleton University in Ottawa as Professor in the Department of Mechanical and Aerospace Engineering**

Dr. Lukasiewicz is a fellow of The American Institute of Aeronautics and Astronautics (Washington), a Fellow of the Institution of Mechanical Engineers (London), a Fellow and Founding Member of the Canadian Aeronautics and Space Institute (Ottawa); he is also a member of the Association of Polish Engineers in Canada, the Polish Institute of Arts and Sciences in Canada, the Polish Combatants Association, and the North American Study Center for Polish Affairs.

Prof. STEPNIEWSKI lectured on helicopters and Vertical Take-Off and Landing (VTOL) planes. He was professor at **Princeton University**. He taught graduate courses on Rotary-wing Aerodynamics and Dynamics

UNIVERSITIES AND COLLEGES

Professor Z.M. FALLSNBUCHL,Ph. D.,
Head of Department of Economics, University of Windsor, Windsor, Ont.

Prof. B. ZABORSKI, Head of the Geography Department at **Ottawa University** requesting names of graduates willing to produce maps for historical and geographical text books and atlases
Prof. Dr.B. SZCZENIOWSKI was appointed full professor on the **Faculty of Applied Sciences at the University of Montreal.**

Prof. J. GANCZARCZYK, P.Eng., Ph.D, D.Sc..
Department of Civil Engineering, University of Toronto, Toronto, Ont.

Prof. K. PIEKARSKI, P.Eng., Ph.D., University of Waterloo, Ont.

T.A. BRZUSTOWSKI, P.Eng., Ph.D.
Deputy Minister, Ontario Ministry of Colleges and Universities, Toronto, Ont.

Prof. G. GRODECKI, P.Eng., M.B.A.,
Director, Ontario Ministry of Consumer and Commercial Relations, Toronto, Ont.

UNIVERSITIES AND COLLEGES

University of Waterloo
Marianna Polak Marek Wartak Prof Glinka Robert Varin - Professor of Materials Science and Engineering Department of Mechanical and Mechatronics Engineering

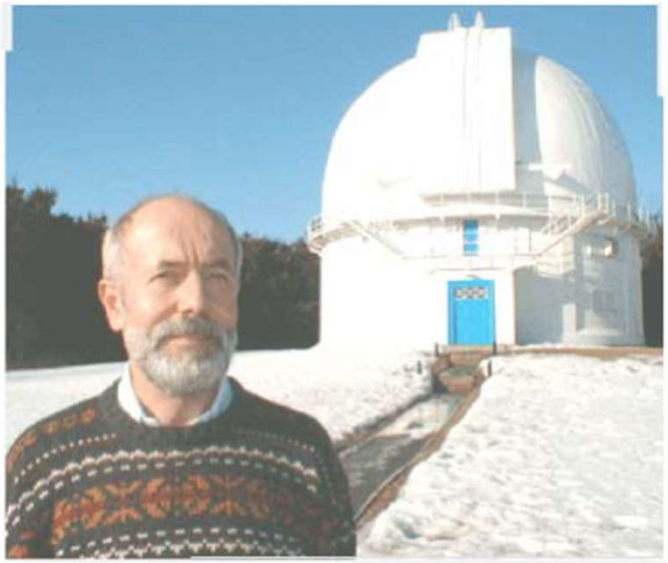
University of Toronto and York
Prof. Zbyszek STACHNIAK, Ph.D. **-** Faculty of Computer Science and Engineering - Mathematical Logic. Artificial Intelligence
(University of Wroclaw Mathematics, 1979) McGill University (1984-85) Information Technology Visiting professor at University of Wroclaw, Carlton (Ottawa), Queen's (Kingston) Curator York University Computer Museum from 2000

University of Toronto and York - PROF. SŁAWOMIR RUCINSKI ASTRONOMER

PROF. JERZY KOREY – KRZECZOWSKI. Ph.D. Ryerson University Dean, than Rector. Scientist, Business Management . Founder of Canadian School of Management first in Canada higher school

Prof. Pawel PRAŁAT, Ph.D Ryerson University - professor of Mathematics

PROF. SŁAWOMIR RUCINSKI ASTRONOMER



Prof. Slawomir Ruciński is a graduate of the **Faculty of Physics at the University of Warsaw.** There he began his scientific career. he worked in the years 1965 - 1980.
He received his **doctorate and habilitation** and became a professor also at the University of Warsaw

In the meantime, he worked and did research internships at the University of Florida, Gainesville, USA (1970-71);

National Research Council Research Associate, Victoria, BC (1975-77). He worked as a Visiting Scientist at Max-Planck-Inst., Munich, Germany (1980-82) and, Senior Research Associate, University of Cambridge, UK (1982-84).

He has been working since 1984 and is associated with **the David Dunlap Observatory at the University of Toronto. and York University.**
Participant and member of many international astronautical organizations, including the chairman of JSSA, (1995 - 1997). Joint Subcommittee on Space Astronomy (Canadian Space Agency), and Hubble Space telescope Time Allocation Committee.

From 2006, President International Astronomical Union Commission 42 (Close Binary Stars).2004, Prof. Ruciński initiated a project to **create a very small nano-satellite, "BRITE Target Explorer", BRITE.** It will be a 20cm cube in size with a small telescope lens to observe the variability of about 300 of the brightest stars with an accuracy greater than 0.1%

ASSOCIATION OF PROFESSIONAL ENGINEERS IN ONTARIO

Mr. Walter K. Bilański Ph.D. chairman of APEO - Association of Professional Engineers of Ontario
As a guest speaker at annual 2007 “Wine and Cheese Party” of Association of Polish Engineers in Canada, he started his speech and greetings with still good command of Polish. He emphasized good cooperation of APEO with APEC (Association of Polish Engineers in Canada).
He mentioned **dr. Z. Przygoda** who served from 1968 to 1977 on the Professional Interviewing Committee of the Association of Professional Engineers of Ontario *(APEO)* and the Consulting Practice Committee.

In 1977 **Dr. Przygoda** received the Medal of the Sons of Martha. This medal is presented to engineers who have served the profession diligently for years.

Mr. Wyszkowski didn't restrict his interests and time to his profession. He was very active in our Association and in APEO's Professional Interviewing Committee

PATENT OFFICE

Polish engineers have played an important role is in the Patent Office of the Consumer and Corporate Affairs department. In 1967 out of 137 graduate engineers and chemists who worked in the Patent Office as patent examiners and classifiers, 12 of them were of Polish origin. Their names are: A. Skarzynski, K. Macewicz, S. Nowacki, Z. Kolodziej, W. Przesibcki, F. M. Szmigielski, F. Gelblum, J. T. Frycz, B. Grzebien, A. Miszkiel, W. Romanowicz, E. Rymek.

The first seven names on this list were graduates of Polish Technical Universities (Politechnics) before the war and were all mechanical engineers. Mr. J. T. Frycz is a product of the Warsaw Polytechnic r. He joined the Patent office in 1965
B. Grzebien and A. Miszkiel graduated in Great Britain after the war: B. Grzebien graduated in a college near Manchester, while A. Miszkiel finished the Polish University College in London. The last two names on the list, i.e., W. F. Romanowicz and E. Rymek are the products of Canadian Universities. - born in Canada yet proud of their Polish ethnic origin.

New blood in the Patent Office include Mr. B. Dmochowski, a product of post war Poland, who joined this office a few years ago. Similarly, Mrs. E. Chmura-Nadeau (mechanical engineer) and Mrs. E. Zurakowska, a biotechnologist

Poles vice-champions of Europe in the intelligentsia

THE IQ LEAGUE

107	Germany
107	Netherlands
106	Poland
104	Sweden
102	Italy
101	Austria
101	Switzerland
100	British Isles
100	Norway
99	Belgium
99	Denmark
99	Finland
98	Czech Republic
98	Hungary
98	Spain
97	Ireland
96	Russia
95	Greece
94	France
94	Bulgaria
94	Romania
90	Turkey
89	Serbia

The report was published by Rychard Lynn, Professor Emeritus of the University of Ulster.

Poles are vice-champions of Europe when it comes to intelligentsia! Our average IQ is 106. Only the Dutch and Germany with IQ 107 ex aequo are ahead of us. And behind us - a whole lot Wherever you look, Poles are at the forefront lately. We still win in TopCoder or EU Young Scientists programming competitions. And our astronomers are valued all over the world.