CANADA

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INUVIK, CANADA'S FIRST ARCTIC TOWN

The following is a partial text of Prime Minister Diefenbaker's speech on July 21 at the ceremonies marking the opening of Inuvik, Northwest Territories:

"...Everywhere I look today with the fresh eyes of a stranger to the Western Arctic, history comes rushing to meet me. First the colourful history of this region of the Mackenzie Delta and the Western Arctic coast - history that the fathers and grandfathers of many of you helped to make. History - some of it - that has had time to find its way into books and that the children are learning about in the schools to remind them to be proud of a northern heritage.

"Here at Inuvik - in the beautiful Sir Alexander Mackenzie School, in Grollier Hall and Stringer Hall - you have the best possible reminder of the lives of men who dared the north as it was in those days equipped with little more than courage. This is why our largest schools in the Northwest Territories, and the student residences associated with them, bear famous names - of explorers and missionaries - names known and honoured not only in the north but far beyond it.

THREE KINDS OF HISTORY

"That is one kind of history. And there is history of another sort in the fact that I am here with you today - the first Canadian Prime Minister to travel north of the Arctic Circle. I could not help thinking as we flew north from Fort Simpson - and this vast unrolling landscape kept pushing the horizons always farther away - of another Prime Minister of Canada, the first. I thought of Sir John A. Macdonald and how he would have wished to be at this ceremony today.

"It is just 75 years ago that Sir John made his famous journey to the west coast by the newly-completed trans-continental railway -- an event full of the drama of nation-building.

"He sparked the imagination of Canadians with his vision of a greater Canada - one that would stretch from coast to coast. How he would have relished this moment - his coast-to-coast dream immeasurably enlarged by this north-south dimension, which I doubt ever occurred to that quick mind or, for that matter, some of our better brains of today. For too long we have forgotten the Arctic.

"And there is a third kind of history. The history we are making today and that you will make here in the years to come. This is a town with no past to leave behind - only the future to look to. The future not of one race, or two, but of the people of all cultures who choose to make it their home...

"I wish I could see Inuvik in winter - a town with fewer chimneys surely than any town in Canada and with no furnaces to stoke! I - who am no engineer - can only guess at the number and complexity of the construction problems that had to be solved to raise up such a town. I say 'raise' because it is the word to describe Inuvik - a town built above the permafrost, resting on piles frozen solid as iron. How many thousand piles must have been cut, hauled, and driven in by stream jet to create the foundations!...

A MAJOR ARCTIC EFFORT

"One does not have to be an engineer to realize that the construction of Inuvik must have called on the full resources of Canada's Arctic building research. For so far north, you are contending with some of the most difficult frost conditions in Canada. And we were not a country that had been engaged in large-scale Arctic construction in the past like some

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other northern countries. Canadians have never attempted to build a town comparable to this so far north.

"Great reserves of resourcefulness and ingenuity had to be summoned to work out new and special types of construction. You will say - and I agree - that, since 40 per cent of our country lies north of the provinces, it was time we took major Arctic construction seriously. Inuvik is the teacher, which will stimulate the thirst for more knowledge of the Arctic....

"The interesting thing about Inuvik is that it is a modern town, yet with the most unmistakeable Arctic characteristics. And I do not mean only in the pile construction and the system of utilidors that act as such vital supply lines - for essential community services.

"I do not minimize the fact that here - almost within sight of the northern seas - is a town with amenities that many others of comparable size in southern Canada could envy - school, churches, hospital, a power plant, radio station, hotel, stores, dwellings ....These are essentials. But what gives them purpose and meaning to the north is people.

PEOPLE OF THE NORTH

"Our northern territories today include many different types of residents - more than at any time in the past. And many of them are here today.

"There are those born in the north - second and third generation families from many different countries of the world. There are the Indians, the Eskimos, and the Métis who have shared with them - and still do - life on the land in all sorts of economic weather. There are men and women from Southern Canada and other countries who - years ago - came north, made it their adopted land and would not now live anywhere else.

"And there are the most recent immigrants of all - the men and women whose duties have taken them into the north in recent years, sometimes for long periods, sometimes only on field trips. They are the scientists and the engineers, the administrators, doctors, nurses, teachers, technical experts, welfare workers - a cross-section of many of Canada's most respected professions, who are here to work for the north and with northerners.

"This was not a town that Canadians from the south came north and constructed single-handed. Far from it. Built into the town - in places we cannot see - are thousands of man-hours of work put there by men from surrounding communities of all races. This urgent need for local labour was in fact utilized in the most practical way and made part of the Government's programme of vocational education. Young Eskimos, Loucheux Indians and Métis worked side by side. Some had taken a training course in the use of heavy equipment outside the north and came back to jobs waiting for them. But for the majority of young trainees this was the first job of its kind that they had ever worked on.

ARCTIC EDUCATION

"I do not need to remind you - with the facilities you have here for the industrial arts at the Sir Alexander Mackenzie School - how much importance the Government attaches to vocational education. This is as true in the rest of Canada as it is in the north where, as you know, vocational training is built right into the curriculum wherever facilities can be provided. Life is hard now on the unskilled and the half-skilled, no matter where they live, north or south. In the Territories this type of trade skill is more than acquiring the ability to drive a bull-dozer or build a house or run an engine. It is a particularly vital form of insurance in an economy where the game is subject to cycles and demand affected by the whims of the fur market....

"When I see the Sir Alexander Mackenzie School and the residences I regret...that we are here too late to see the children. When one flies here - even though we flew over a relatively small part of this immense Mackenzie Delta - it is not difficult to know why the problem of providing education for the children who live in far-off hunting camps has to be solved by air-lift.

"Our northern schools have a responsibility even wider than to their own people. Through them Canada has an opportunity that is unique to show the rest of the world that we mean what we say when we express our views on race discrimination. Those of you who are familiar with the Bill of Rights I advocated for so many years and Parliament enacted into law for them will know how strongly I feel about discrimination. But here in Inuvik there is more than an invitation to show our deep distaste of according privileges to one race that are not available to another. It is a wholly positive opportunity to show how the future of the north will be influenced by young people who have been taught in a way to honour their racial distinctiveness. This is a pride of race that has no taint of arrogance. It is a source of strength.

"As you know, the Government is building a centre here for Arctic research - for research into resources, into a wide range of problems and possibilities common to an Arctic environment. Its facilities are not limited to government scientists, but are to be available to industry and universities too. Research is yet another field where Canada takes her northern responsibilities seriously. It is teamed with what we have done with roads, communications, mining, agriculture, surveying and community development.

"Perhaps with the stimulus from all these developments Canadians will become more conscious of their tri-oceanic inheritance. It took us a long time to progress from the Atlantic watersheds to the shores of the Pacific, but we did it. Now, there looms the horizon of the Arctic and all it might hold in wealth, knowledge of climate and peace in the world.

"Our northern territories look toward a future that few Canadians would have pictured for them even a few years ago. You, and your neighbours in Aklavik and other neighbouring communities, live on wide horizons...."

CCC WINS U.S. CONTRACT

Mr. Raymond O'Hurley, Minister of Defence Production, recently announced the award by the United States Department of Defence of a development contract for a 600 h.p. gas turbine engine to the Canadian Commercial Corporation.

The object of the programme, which is a joint requirement of the United States Army and Navy, is to develop a gas turbine for marine and vehicular applications having a fuel consumption comparable to a diesel engine, with the gas turbine's advantages of light weight, compactness, reliability and starting ease. Successful accomplishment of this development will mark a highly significant advance for marine and vehicular gas turbines and will have wide usage in a broad range of military applications.

The award results from a proposal submitted by the Canadian Commercial Corporation on behalf of Orenda Engines Limited, Malton, Ontario. Similar contracts have been awarded to two United States companies, which were previously announced by the United States Department of Defence. A portion of the estimated development costs is being borne by each of the three competing contractors. The Canadian programme will receive support from the Development Assistance Fund administered by the Department of Defence Production. It will be carried out at Orenda Engines Limited's Malton facility and will further enhance Canadian technical competence in the gas-turbine field.

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MOTOR ACCIDENTS

Motor vehicle traffic accidents on Canada's streets and highways in May claimed 250 lives, compared to 242 in the corresponding 1960 month, the Dominion Bureau of Statistics reports in a special statement. More fatalities were reported in Nova Scotia, Ontario, Manitoba, Saskatchewan and Alberta, and fewer in the other provinces; no deaths were recorded in either year in the Yukon and Northwest Territories.

Fatalities by region in May were: Newfoundland, 3 (7 in May 1960); Prince Edward Island, nil (2); Nova Scotia, 12 (8); New Brunswick, 8 (17); Quebec, 57 (69); Ontario, 105 (91); Manitoba, 15 (9); Saskatchewan, 16 (4); Alberta, 16 (14); and British Columbia, 18 (21).

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OTTAWA MAINTENANCE HANGAR

A new $2-million maintenance hangar is now in use at Ottawa Airport, the Department of Transport announces. The semi-cantilevered building houses all Ottawa-based DOT aircraft, central stores, aircraft and radio workshops, helicopter overhaul shop, class-rooms and the Department's entire flight operations staff under one roof. The Department's flight simulator will also be transferred to the hangar. Some 165 Transport Department staff are employed on the premises.

The building, which combines concrete with steel construction, is 467 feet long and 250 feet deep. Of this depth, the hangar section accounts for 175 feet, 150 of which is free of pillars. This large unobstructed floor area is the result of using a semi-cantilevered roof- i.e. a roof suspended canopy-fashion from one side of the building by overhead girders. The interior height is 35 feet, and even higher where two tail-gates accommodate aircraft of DC-8 size. The entire front consists of nine sliding doors.

PRINCIPAL PURPOSE

The building is used for engine build-ups and major air-frame overhauls on the Department's 38 fixed-wing aircraft and 17 helicopters based at various points throughout the country. Normal running maintenance on Ottawa-based equipment also takes place in the hangar.

The building contains two explosion-proof rooms in which paint and lubricating oils are stored, and a darkened room in which the temperature is kept at a constant 60 degrees Fahrenheit for storage of rubber tires.

Sprinkler systems protect the structure from fire, and steel roof girders are sprayed with heat-resistant asbestos.

An unusual feature is a paint-spray booth in which fans suck any surplus spray into an artificial waterfall which carries the paint particles off.

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BUILDING PERMITS

Canadian municipalities issued building permits in May to cover construction valued at $247,682,000, a rise of 13.8 per cent from last year's May total of $217,642,000. The value of residential building covered by permits issued in the month was placed at $145,299,000, compared to $107,165,000 a year earlier and the value of non-residential building was $102,383,000 ($110,477,000 a year earlier).

The value by provinces of construction covered by permits issued in May was: Newfoundland, $5,115,000 ($689,000 in May 1960); Prince Edward Island, $743,000 ($226,000); Nova Scotia, $3,078,000 ($10,547,000); New Brunswick, $3,791,000 ($2,943,000); Quebec, $53,184,000 ($38,196,000); Ontario, $107,610,000 ($94,809,000); Manitoba, $19,771,000 ($16,597,000); Saskatchewan, $9,629,000 ($9,071,000); Alberta, $26,972,000 ($23,416,000); and British Columbia, $17,789,000 ($21,148,000).

OBSERVATORY FIELD RESEARCH

Over a dozen field parties from the Dominion Observatories of the Department of Mines and Technical Surveys are working in various areas of Canada this summer on a far-reaching programme of mapping the earth's gravity, magnetism, and seismic characteristics.

The programme, announced recently by Mines and Technical Surveys Minister Paul Comtois, complements the year-round geophysical work of the Observatories and is being carried out by five or six parties studying gravity, several parties engaged in seismographic studies, and others that are mapping terrestrial magnetism.

The top feature of the programme is an airborne geomagnetic survey of some 41,000 line miles ranging from the Rockies to central Quebec and from the United States border to the coast of the Arctic Ocean. Also on the programme are an investigation of gravity in areas as widely separated as the Arctic archipelago, the Maritimes, and the Prairie Provinces; and recordings of artificial earth tremors in Ontario and Quebec, as well as on the coast of British Columbia.

The results of these investigations are of great value to prospectors and industry in the search for oil and minerals, to pilots and navigators, map makers, architects, surveyors, defence planners, and many others, all of whom require such scientific data in their daily work.

RESEARCH ON GRAVITY

Of the gravity parties, the most northerly are working on the Continental Polar Shelf Project on and around the Queen Elizabeth Islands, as well as on the ice of the Arctic Ocean itself, moving about by helicopter. Another party is measuring gravity on the southern half of Baffin Island, using both helicopters and fixed-wing aircraft in a survey that will last all summer and that forms part of the continuing regional-gravity survey of Canada.

A party using fixed-wing aircraft is surveying gravity in an area stretching some 750 miles from Lake Mistassini in Quebec to the Labrador coast. This investigation is of particular significance because of the noted mineral-bearing potential of the region.

A gravity team is mapping the sedimentary basin of the Prairie Provinces, travelling by automobile through the Winnipeg, Regina, Edmonton, and other areas. This work, which takes in a rich oil-bearing region, is carried out in co-operation with the oil industry.

STUDY OF HUDSON BAY

Another party is carrying out investigations on Hudson Bay, which, scientists hope, will help to solve the question of this great inland sea. The party will take measurements by means of an underwater gravity meter, which will be lowered to the bottom and read by an electronic sensing device on board ship.

Perhaps the most curious investigation involving gravity, topography, and other characteristics centres on the New Quebec meteorite crater in the Ungava Peninsula. This crater, filled by a lake some two miles in diameter and 825 feet deep, was first seen by white men from the air in 1943, although it was visited by Eskimos before that. It is believed to have been caused by the impact of a meteorite in prehistoric times, and scientists hope to find out more about the origin, subsequent history, and present configuration of this interesting feature. The party investigating the crater is using two fixed-wing aircraft and is accompanied by two United States scientists who are interested in comparing impact and artificial explosion craters.

GEOMAGNETIC STUDIES

In their work on geomagnetism, Observatory scientists are using the three-component airborne magnetometer, developed at the Dominion Observatories, to chart, from an aircraft, the direction and intensity of the earth's magnetic field over that part of Canada lying between the Rocky Mountains and central Quebec, and between the international boundary and 64° northern latitude. These flights are made east to west in a gridiron pattern and provide the magnetic information for all air and marine navigation and topographic maps of Canada, as well as general scientific data about the magnetic field of the earth.

Three field parties are taking magnetic measurements on the ground in British Columbia, the Prairie Provinces, and the Maritimes. These observations during June, July, and August will serve as standard observation points for co-ordinating magnetic airborne surveys. They are necessary to take account of the slow, long-term changes in the earth's magnetic force known as secular change.

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CANADIAN FISHERIES, 1960-61

When the 1960-61 fishing year closed at the end of April, Canadian sea fishermen had landed a catch of 1,822 million pounds with a value of $86 million. Unit prices were generally a little higher than in the previous season. The Atlantic catch was of about the same size but the gross income of Atlantic fishermen increased by about $2 million. Stocks of frozen fish were at the same level on the east coast at the end of the year as at the beginning. Stocks of salted fish were heavier. On the Pacific coast the industry experienced the second of two poor years. The value of the catch declined from its record high level of $51 million in 1958-59 to $34 million in 1959-60 and $29 million in 1960-61. The season ended on a note of hope, however. Average salmon runs are confidently expected this summer, including a large run of pinks to the Fraser. A measure of order having been introduced into fishmeal marketing, a summer herring fishery also is expected. Top-heavy stocks of frozen Pacific halibut were cut in two during the year. Optimism was also apparent in the number of boats under

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construction, especially trollers of under ten tons. Freshwater fisheries produced well, but their markets were sluggish in the early months of 1961, leaving them with rather heavy warehouse supplies in the Prairie Provinces at the end of April.

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AUTOMATIC WEATHER POST

The world's first isotope-powered, automatic weather station will soon go into operation in the Canadian Arctic, it was announced on July 21 by the Department of Transport of Canada, the United States Department of Commerce Weather Bureau and the United States Atomic Energy Commission. Installation is to be carried out in August.

For many years meteorologists have dreamed of systematic weather observations obtained from strategically-located areas of the remote Arctic. Many of the desired locations, however, are difficult of access, and to establish manned stations there would raise such problems as the recruiting of "isolation staff" and the maintenance of resupply operations. An automatic weather station capable of functioning unattended for up to two years has now been developed. Earlier difficulties created by the lack of a continuous power source have been eliminated by the use of isotope power.

U.S. DESIGNS EQUIPMENT

The United States Atomic Energy Commission and the United States Weather Bureau led in the design and fabrication of equipment to provide reliability consistent with the long life of the isotope, to use a minimum of electric energy and to provide accurate weather data in usable form. The station has undergone extensive tests in Baltimore, Maryland, and is ready for installation.

The close co-operation maintained between the United States Weather Bureau and the Department of Transport of Canada prompted the latter's meteorological service to suggest that the station be installed for trial and operational use in the Canadian Arctic. As a result, it will be located on a remote, uninhabited island in the vicinity of Norwegian Bay, about mid-way between the joint Arctic weather stations at Eureka and Resolute.

The station and its power source are housed in a cylindrical, insulated container about eight feet long. The lower five feet will be buried in the permanently frozen ground.

INSTRUMENTS USED

Rugged and reliable weather instruments - an anemometer, a thermometer and a barometer - mounted as integral parts of the station will measure wind direction and speed, temperature and barometric pressure. These readings will be fed into a data-processing system and will emerge ready to go directly into the radio transmitter, which, in turn, will relay them every three hours to the receiving stations at Resolute and Alert. The anemometer and thermometer will be exposed on a tower beside the station, while the barometer will be placed in the cylinder with recording equipment, radio transmitters, antenna and other electrical apparatus.

One of the station's unique features is the power source, located in the lower chamber of the container. Consisting of a Stronium-90 heat generator and thermocouples, batteries and a converter, it uses a safe insoluble chemical form of the isotope Strontium-90 securely locked in a corrosion-resistant capsule and shielded by three quarters of a ton of lead. The excess heat from the Strontium-90 is used to maintain an interior operating temperature of approximately 70 degrees Fahrenheit. This element produces thermo-energy to charge a nickel-cadmium storage battery system, which in turn activates the radio transmitter.. The isotope of Strontium-90 has a relatively long half-life and is capable of producing usable power for over ten years. The compound used, Strontium-titanate, is insoluble and biologically inert, with a melting point so high that it could not be dispersed by the hottest gasoline fires.

The complete station is being transported by truck from the United States to Canada, where it will be loaded on the Department of Transport icebreaker CMS "John A. Macdonald" for transportation to its destination.

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NEWTON TO BOGOTA AND QUITO

The Secretary of State for External Affairs, Mr. Howard Green, announced on July 24 the appointment of Mr. Theodore F.M. Newton as Ambassador to Colombia and Ecuador, to succeed Mr. Jean Morin, who had been appointed Ambassador to Portugal.

Mr. Newton was born in Sarnia, Ontario, in July 1903. He received his education at McGill University, where he was an assistant instructor and lecturer from 1925 to 1928. He was an instructor and tutor at Harvard University from 1928 to 1937, and during that period was awarded two travelling fellowships for research in London. From 1937 to 1943 he was an associate professor and assistant warden of Douglas Hall at McGill. He joined the Department of External Affairs in 1947, serving as First Secretary in the Canadian Embassy in Washington, and, later, as Consul in Boston. From October 1950 until May 1953 he served as Director of Information, North Atlantic Council; and from 1954 to 1957 as Minister-Counsellor in Tokyo. From 1958 to 1960 he was Canadian Ambassador to Indonesia.

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NEW CENTRAL BANK GOVERNOR

On July 24, the Board of Directors of the Bank of Canada announced that they had appointed Louis Rasminsky, Deputy Governor of the Bank for the past six and half years, as Governor to replace the recently-retired James E. Coyne. Mr. Rasminsky automatically became President of the Industrial Development Bank.

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Mr. Rasminsky was born in Montreal in 1908. He attended the University of Toronto, where he obtained an honours degree in economics in 1928 and won a political science fellowship for postgraduate studies at the London School of Economics. He joined the staff of the League of Nations in 1930 and became the League specialist on monetary and financial questions. In 1939 he returned to Canada and was invited by Mr. Graham Towers to organize the economic and statistical section of the Foreign Exchange Control Board. He became Assistant to the Chairman of the Board in 1941 and held the position of Chairman (Alternate) and chief executive officer from 1942 until the Foreign Exchange Control Board ceased operations in December 1951. Mr. Rasminsky served as Executive Assistant to the Governors of the Bank of Canada from 1943 to 1954.

In 1944, Mr. Rasminsky was a member of the Canadian delegation to the Bretton Woods Financial and Economic Conference, where he served as chairman of the committee drafting the Articles of Agreement of the International Monetary Fund. He has represented Canada on the executive board of the IMF since its inception in 1946 and has been an executive director of the International Bank for Reconstruction and Development since 1950.

Mr. Rasminsky has been a member of or an adviser to the Canadian delegations at numerous Commonwealth and international conferences on economic, financial and trade matters. These have included the Commonwealth Prime Ministers' Conference held in London in 1952, all Commonwealth finance ministers' conferences since 1949, all meetings of the Joint U.S.-Canada Committee on Trade and Economic Affairs since 1954, and all meetings of the Canada-U.K. Continuing Economic Committee since 1947.

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NINTH MANPOWER BULLETIN

Who employs Canadian engineers and scientists? How much education do they have? What are their earnings? These are a few of the many questions answered in Professional Manpower Bulletin No. 9, recently released by Mr. Michael Starr, Minister of Labour.

The publication, entitled "Engineering and Scientific Manpower Resources in Canada", covers in detail the employment, education and earnings during 1959 of over 14,000 engineers and scientists in Canada.

Four out of five engineers in Canada worked in private industry (including professional service), while only 47 per cent of the scientists were similarly employed. Governments employed 17 per cent of the engineers and one-third of the scientists; 9 per cent of the engineers and 20 per cent of the scientists worked for the Federal Government. Universities employed 2 per cent of the engineers and 9 per cent of the scientists, while 1 per cent of the engineers and 11 per cent of the scientists taught in high schools.

The type of work performed by engineers and scientists varied. Engineers were concentrated in executive and administrative activity with 29 per cent so engaged. On the other hand, almost one-quarter of the scientists were in research and development work.

EXECUTIVES AND ADMINISTRATORS

The more experienced engineers and scientists tended to be concentrated even more greatly in executive and administrative work. In the case of engineers, almost half of those with more than 30 years of experience were in executive and administrative positions, compared to a mere 16 per cent of those with 10 years of experience or less.

Only 2 per cent of all engineers and scientists were women. The proportion in engineering fields was negligible, but women made up 6 per cent of all scientists, excluding those in agriculture and forestry, and 22 per cent of all biological scientists.

Of all scientists and engineers, 18 per cent had obtained either masters' or doctors' degrees and 7 per cent held doctors' degrees. Only 1 per cent of the engineers had obtained doctors' degrees compared to 24 per cent of all scientists, excluding those in agriculture and forestry.

OCCUPATION AND GEOGRAPHY

The data in the bulletin reveal some interesting facts about the occupational and geographical mobility patterns of engineering and scientific professionals. About 29 per cent of the engineers and scientists worked in fields of employment specialization different from the type of academic course they followed on the under-graduate level. Roughly one out of three engineers and scientists who were educated and employed in Canada were employed outside the province where they received their undergraduate education.

A significant relation exists between certain jobs and academic training. Those trained in aeronautical engineering, engineering physics, and metallurgical engineering, tended strongly toward research and development work with 25, 23, and 20 per cent, respectively, performing this function compared to 6 per cent for engineers as a whole. For scientists, 51 per cent of those in biology worked in research and development compared to only 6 per cent of geological scientists and 33 per cent for all scientists excluding those in agriculture and forestry.

Information on earnings was also provided in this report. Median earnings for engineers with bachelor's degrees ranged from $5,900 for those who graduated within the last five years preceding the survey to $11,900 for those who graduated over thirty years ago.

Earnings for scientists with similar education and experience were $5,250 and $8,350.

In addition to field of specialization and experience, the level of earnings also varied depending on sex, geographical location, type of work and employer.