



INTERCOSMOS 2 LAUNCHED

The second satellite in the Soviet Union's programme of collaborative space research was launched on December 25, when Intercosmos 2 was placed in a 1,200km by 206km orbit with an inclination of 48.4° and a period of 98.5min. The satellite, like its predecessor Intercosmos 1 which was launched on October 14 last year, also into a 48.4° orbit, is designed to make observations of the ionosphere. The scientific experiments were built by East Germany and Russia to designs supplied by Bulgaria, Czechoslovakia and the two first-mentioned countries.

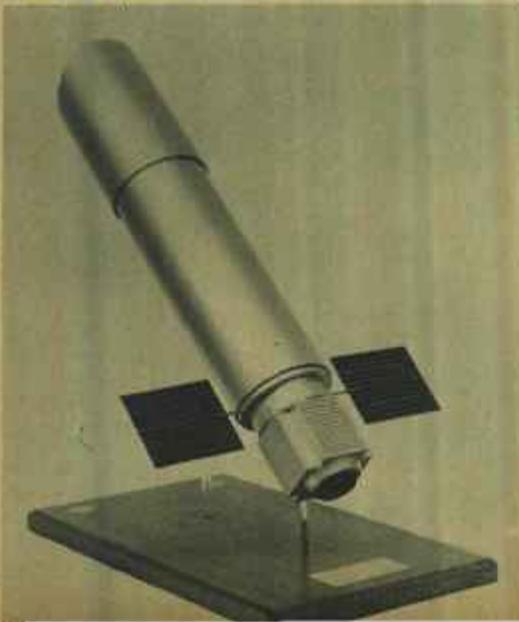
According to *Novosti*, the design of Intercosmos 2 differs considerably from that of its predecessor, as a result of the apparently spurious results caused by the interaction of Intercosmos 1 with the weak ionospheric field. To this end as much of the equipment as possible in the new satellite has been placed inside the shell so as to screen the sensors, and electrical energy is provided by storage batteries; there are no solar cells, since the current drawn from the arrays would set up appreciable magnetic fields in the vicinity of the satellite.

Meanwhile data continues to flow in from Intercosmos 1, which has recorded significant new information about solar flares and the density of the upper atmosphere.

PROGRESS WITH HOLLAND'S SATELLITE

Some more details are given of the Dutch satellite NAS (Netherlands Astronautical Satellites), described in *Flight* for February 20, 1969, page 346. This satellite will be launched from the Western Test Range in California in August 1974 as the main part of a space programme worth an estimated \$154 million (£6.2 million). The design and construction of the satellite and associated tracking station is estimated at

Following the success of Orbiting Astronomical Observatory 2, launched in Earth orbit on December 7, 1968, Grumman has a study underway for an even larger observatory with ten times the data-gathering capacity. Launched by Saturn IB rocket, the 50ft, 15.5m spacecraft (weighing 20,000lb, 9,000kg, and with a diameter of 15ft, 4.6m) will be placed in a 300 mile orbit for 5-8 years. It could operate either as a unit of the proposed space station, or separate from it.



\$80.46 million (£167,000) and the two experiments to measure ultraviolet and x-radiation will cost a further \$18 million (£206,000). The programme is regarded as a national project and consequently as much of it as possible will be undertaken by Dutch industry.

According to Dr Spa, the spaceflight co-ordinator of the Philips company, the Dutch aviation and electronics industry is at a considerable disadvantage compared with competitors because of the limited national market available, which makes it difficult for national enterprise to compete effectively against overseas contenders. He has expressed, therefore, great satisfaction at the announcement that the Dutch Ministry of Economics had decided to give financial aid to bring about this advanced space project, which would not only provide work in the immediate future, but (more important) would raise the level of Dutch technology in this field. As an example of the spin-off available from such experience, he cites the example that reliable weather forecasting for periods of up to ten days could result in annual savings in agriculture and the building industry worth, on a world-wide scale, as much as \$6.5 billion (£745 million). In other fields, such as map-making, geology, oceanography and fisheries, similar savings were also to be expected.

The two main contractors for the NAS satellite are Fokker and Philips, and the project will be managed by the Netherlands Aircraft Development Institute.

MYERS REPLACES MUELLER

Mr Dale D. Myers, vice-president and general manager of the space-shuttle programme at North American Rockwell, has been appointed Associate Administrator for Manned Space Flight at the National Aeronautics and Space Administration with effect from January 12. He replaces Dr George E. Mueller, who resigned from this post on December 10 to become a vice-president of General Dynamics in New York.

Myers will be responsible for the planning, direction, execution and evaluation of the NASA manned spaceflight sector. He will be responsible for the George C. Marshall Space Flight Centre at Huntsville, the Manned Spacecraft Centre at Houston, and the John F. Kennedy Centre in Florida. He has been in charge of the NAR shuttle since June last year, and before that was responsible for the firm's Apollo command and service module programmes. He has been with North American since 1943, in the military aircraft and missile field, and developed the use of the supersonic canard configuration which has since been used extensively on missiles and aircraft.

VOLCANOES ON THE MOON?

Prof Nikolai Kozyrev, a Soviet astronomer who has made a special study of changes on the Moon, commonly known as TLPs (transient lunar phenomena), thinks that active volcanoes exist on the Earth's satellite, and has filed a claim with the USSR Committee of Inventions and Discoveries. His claim is based on the similarity shown in spectrograms of the lunar craters Aristarchus and Alphonsus to those of the active volcanoes Bezymyanny and Klychevoi on Kamchatka.

It was Kozyrev who first detected luminescence inside Aristarchus, the 29-mile crater which is also the brightest formation on the surface of the Moon. His observations of this and other craters have been confirmed by astronomers in Britain and America, but this recent claim is viewed with some scepticism by Western observers.

MICHAEL COLLINS IN HIGH PLACES

Michael Collins, who remained orbiting the Moon in the Apollo 11 command module while his colleagues Neil Armstrong and "Buzz" Aldrin made the first manned landing on the Moon last July, was sworn in on January 6 as Assistant Secretary of State for Public Affairs. He will be responsible for "putting across" Washington's view to the world and transmitting the opinions of the latter back to the State Department.

Mr Collins, 39, had intimated that he did not wish to remain on the active astronaut list shortly after the conclusion of the flight. His associated crew members have said that they wish to remain in the space programme.