

# Sputnik, the tiny sphere that launched the space race (Update)

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Sixty years ago, the Soviet Union launched the first artificial satellite known as Sputnik, a tiny silver sphere with four spider leg-like antennae

When the Soviet Union launched the first artificial satellite 60 years ago, it marked both the beginning of space exploration and the start of a race between Moscow and Washington.

Sputnik, the tiny silver sphere with four spider leg-like antennae, showed off Soviet technological prowess.

But German scientists—who had worked on Adolf Hitler's rocket projects and had been brought to the USSR after the war—were the ones who stood at the forefront of space achievement.

The founder of the Soviet space programme, Sergei Korolyov, worked with German scientists and fragments of the German FAU rocket to develop a new military missile, said Nikolai Shiganov, one of the scientists behind Soviet rocket R-7 which put Sputnik into orbit.

"The Korolyov bureau had to create an intercontinental rocket capable of carrying a hydrogen bomb to any point on the planet," Shiganov, now aged 97, told AFP in an interview.

As he worked for the military, Korolyov—who spent six years in the Gulag—dreamt of space conquest. But time was running out: one of the principal German engineers, Wernher von Braun, was already working for the Americans.

After three years of work and three rocket accidents, the fourth R-7 with a dummy warhead successfully hit its target in Kamchatka, in the Far East, in August 1957. The test was hailed as successful although the rocket head disintegrated in flight.

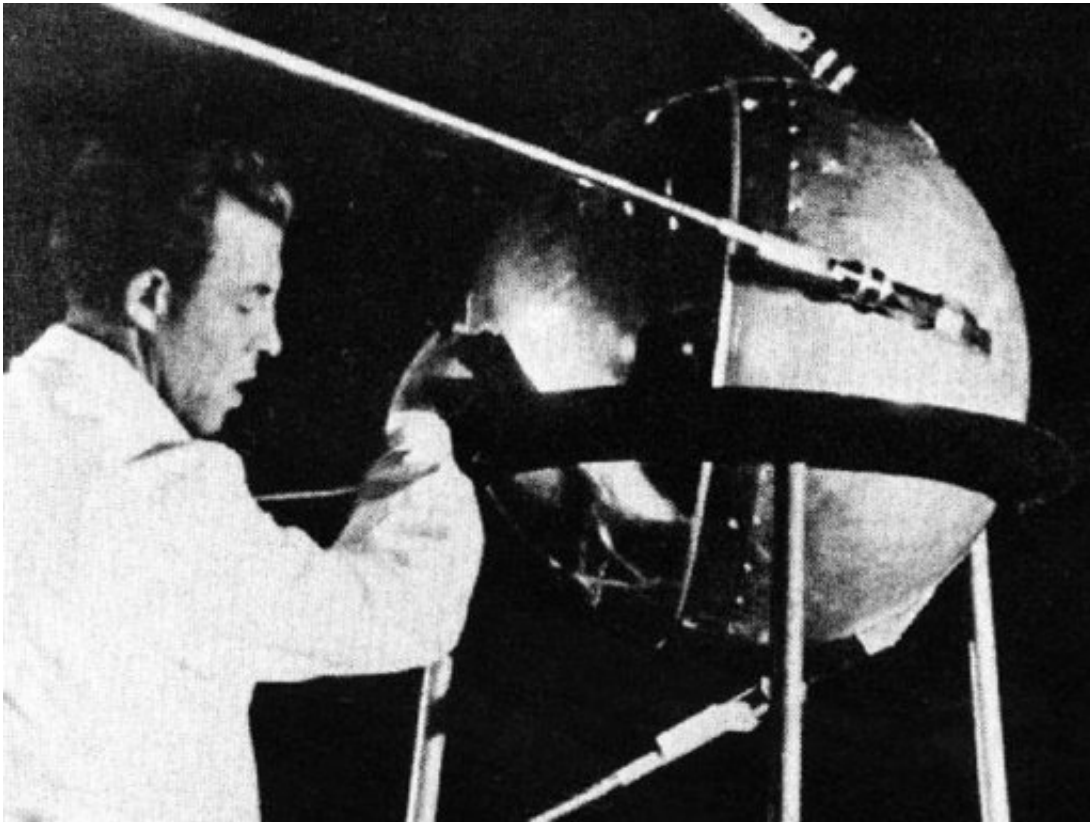
Creating a new rocket head would take six months, much too long as the Soviets wanted to pre-empt the launch of a US satellite in 1958. So Korolyov suggested creating a simple satellite made of two hemispheres containing sensors, a radio and a battery pack.

In just two months, the apparatus measuring 58 centimetres (22 inches) in diameter and weighing 83.6 kilogrammes (184.3 pounds) was ready,

remembered Shiganov, whose lab created the aluminium alloy and came up with a new welding technique used to make the Sputnik and the R-7.

## 'A tiny dot'

Though the satellite captured imaginations, with radio amateurs tuning in around the world to hear its simple calls, Sputnik was secondary to its inventors, Shiganov said.



Sputnik was in orbit for 92 days, making 1,440 circles around Earth, before losing speed and burning up in the atmosphere

"The most important thing was that it proved the effectiveness of the

R-7 rocket."

The secrecy around the project meant Shiganov didn't learn of the actual launch until he heard on the radio that the first Earth satellite was put in orbit on October 4, 1957 from a testing range in Kazakhstan, the future Baikonur cosmodrome.

On a sunny October Sunday, Shiganov was able to see the glint of Sputnik with his naked eye.

"It was a tiny dot which shone in the sun because of its glossy surface," he said.

Sputnik was in orbit for 92 days, making 1,440 circles around Earth, before losing speed and burning up in the atmosphere. Several replicas are now on show in museums.

Shiganov's colleague Eduard Bolotov, 84, actually saw Sputnik as a young rocket trajectory engineer of 24, even gaining access to the depot where the rocket stood during final preparations.

The miniscule satellite sat atop the rocket and Bolotov, with other young specialists, patted the rocket's side and signed his name on the inside of the nozzle.

"I watched the actual launch through a gap from my post," Bolotov said.

Although workers were summoned to the launchpad with secret letters, crowds of people also turned up, he said. "Their relatives had told them about the launch."

"Only at 3 am we found out that Sputnik was in orbit, and radios all over the world started to register its beeps."

"Then we went back to our dorms and drank pure alcohol for victory of our rocket," he said.

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