Intercontinental Ballistic Missiles, Satellites & UNIVAC's Athena Computer

Completed in 1957, one of UNIVAC's first projects was the Athena computer. Occupying 370 square feet and weighing 21,000 pounds, the machine was built as a ground guidance computer for the Air Force's Titan series of rockets, designed to carry intercontinental ballistic missiles (ICBMs). This program, beginning in the late 1950s, took place during the height of the Cold War arms race between the United States and Russia.

The first in this series of rockets, Titan I, could carry afour-megaton nuclear warhead capable of reaching Russia. The military performed many test launches at Cape Canaveral and the Vandenberg Air Force Base, all of which were supervised in part by UNIVAC engineers.

Above: An image from the late 1950s to early 1960s showing the test launch of a Titan I rocket at Cape Canaveral.

Left: A picture of the Athena II Computer - the successor to the first Athena. Athena was the first Univac-produced computer to use transistors. A transistor is a device that helps control the flow of electricity in a machine. Prior to transistors, engineers had used vacuum tubes inside of computers which frequently caused overheating.

After the Russians launched their satellite, Sputnik, in 1957, the space race began and the Athena computer got a new job: guiding satellite launches into space. With over 80 launches using the Thor series of rockets, NASA eventually sent dozens of satellites into orbit, again, with UNIVAC's support.

The reliability of the Athena computer proved to be key to the operation's success. Designed to calculate the launch coordinates (accounting for wind, gravitational pull and other factors), the computer, and its programming team, never contributed to a mission failure. Continuing to innovate, later UNIVAC missile guidance computers were smaller and fit inside the rocket itself.

Instead of a nose cone and a bomb in it, it carried a satellite into orbit.

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Below: A picture from the early 1960s showing a Titan I rocket at a launch site in Colorado. The rockets were built by the Martin Company which later became Lockheed Martin.