World's first commercial re-programmable satellite blasts into space

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The world's first commercial fully re-programmable satellite lifted off from French Guiana on Friday on board an Ariane 5 rocket, ushering in a new era of more flexible communications.

Unlike conventional models that are designed and "hard-wired" on Earth and cannot be repurposed once in orbit, the Eutelsat Quantum allows users to tailor the communications to their needs—almost in real-time.

The satellite will be placed in orbit some 36 minutes after the launch.

Because it can be reprogrammed while orbiting in a fixed position 35,000 kilometers (22,000 miles) above the Earth, the Quantum can respond to changing demands for data transmission and secure communications during its 15-year lifetime, according to the European Space Agency.

The 3.5 ton Quantum model has eight communications beams, each of which can be modified to change its area of coverage and also the power of the telecommunications signal it emits.

Using software made available to the customer, these changes can be made "in a matter of minutes", according to Eutelsat.

This means the satellite can be used to provide mobile coverage for moving objects such as aircraft or oceangoing vessels, or to provide coverage after a natural disaster or for one-off events.

And at a time of growing concern over digital security—as well as the possible weaponising of space—Quantum is able to pinpoint the origin of signals emitted with or without malicious intent and take action to remedy the interference.

The Quantum will cover a large geographical area from West Africa to Asia for 15 years.