

LICIACUBE

Nasa chooses italian excellence to monitor the impact between satellite and an asteroid.

LICIACube (Light Italian Cube sat for Imaging of Asteroids) is the name of the project coordinated by the Italian space agency for the development of a **SmallSat** built in the Argotec laboratories in Turin. This satellite was selected by NASA in order to take part in the **Dart** mission (Double Asteroid Redirection Test) expected for 2021.

The DART mission wants to verify the possibility to change the orbit of the moonlet called (**Didymoon**) in binary asteroid **Didymos** with a kinetic impact of the NASA satellite at a velocity of about 21.000 km/h, and a distance from the earth of 10 million kilometers. After a journey of about 16 months on-board together the **DART** satellite, **LICIACube**, and the Italian **cubesat** will be released in order to monitor effects of the impact, the crater and the evolution of the debris produced by the collision. All data acquired during the phase of the mission will be important to verify the efficacy of the impact.

*“Taking part in a Nasa mission is a source of pride - **said Simone Pirrotta, Program Manager for the LICIACube mission for ASI** - One day our earth could be saved from potential asteroid threats by providing our best support and orbit deviation techniques. That’s why the Italian space Agency has mobilized a strong and large team based on Argotec’s industrial abilities and knowledge enriched by the researcher’s expertise of the Astrophysics National Institute, the Politecnico of Milano and the University of Bologna. This will be **the first Italian national mission destined for a target so far away** and will also allow us to improve our internal skills and add value to new infrastructures like the great antenna located in Sardinia for deep space communications.”*

So much technology, power and innovation are locked up in a small dimension similar to a shoe box. To deal with this unique mission the **Argotec’s** platform will use **an autonomous navigation system, an integrated propulsion system, a strong camera and an advanced on-board computer** to collect basic scientific data for the development techniques to prevent potential impacts with asteroids. A major part of the satellite project derived from an ArgoMoon mission and the initiative of ASI that will soon take part in NASA’s first launch for human missions beyond low-earth orbit, and this time its aim is to produce a photographic documentation.

*“We are very honored that the NASA and the Italian space agency have chosen our platform Hawk to take part in a mission so ambitious, the same cube sat was also developed for the ArgoMoon program. For the first time in history an **Italian SmallSat** will monitor the kinetic impact of a satellite with an asteroid. This is a very complex role that will happen in **total autonomy** miles away from Earth. – **said David Avino, Managing Director of Argotec** - Taking part in this mission as a key player represents an important*

*responsibility, but at the same time this is also recognition of our **company's knowledge for the development of compact satellite solutions able to operate in deep space.***

Asteroids are considered being a real threat to Earth. This has been demonstrated by the numerous reports of space agencies that study the paths of these heavenly bodies. It is becoming increasingly important to carry out efficient test runs of the space systems to change the paths in order to protect the earth from collisions. The Italian mission represents an important role in the first steps towards a planetary defense.

Thanks to **LICIACube** the excellence of the **Made in Italy** will fly once again in space.

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