

21st IAA SYMPOSIUM ON SMALL SATELLITE MISSIONS (B4)  
15th UN/IAA Workshop on Small Satellite Programmes at the Service of Developing Countries (1)

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THE ECUADORIAN EXPERIENCE IN SPACE: THE NEE SATELLITE CONSTELLATION

**Abstract**

On April 25, 2013 after an almost 4 years of development and testing the NEE-01 PEGASUS, the first Ecuadorian satellite took off to orbit on board an LM2D Chinese vector, launching from the JiuQuan cosmodrome, it operated correctly until May 23 when a close approach with the SCC 15890 object impaired the attitude control and antennae systems of the satellite. On November 21 of the same year the NEE-02 KRYSAOR, the second Ecuadorian satellite was launched into orbit by a Russian Dnepr booster taking off from the Yasny cosmodrome, it carried a novel device called PERSEUS which allowed the Ecuadorian Civilian Space Agency to recover the signal of the NEE-01 PEGASUS via intersatellite communication.

This is the result of 7 years of indigenous effort on the frame of the Ecuadorian Civilian Space Program, using only national personnel, devising our own solutions, from the very basics like PCB fabrication and coating formulation to building entire systems like EPS modules and titanium structures, designing our own solutions and building them with our own processes, going through the making of our own tools, like the GOLEM magneto dynamical shaker or the SESCA Space Environment simulation chamber and testing and developing our ground stations HERMES-1 and HERMES-2. In this paper we will review the results and the advances made in this path to reach space with our own ingenuity in the effort to share with the community what we have learned and humbly aspiring to inspire other nations to follow this path of discovery of their own capabilities, which in time will lead them to share with others their advances in the hopes of contributing to the advancement of mankind all.