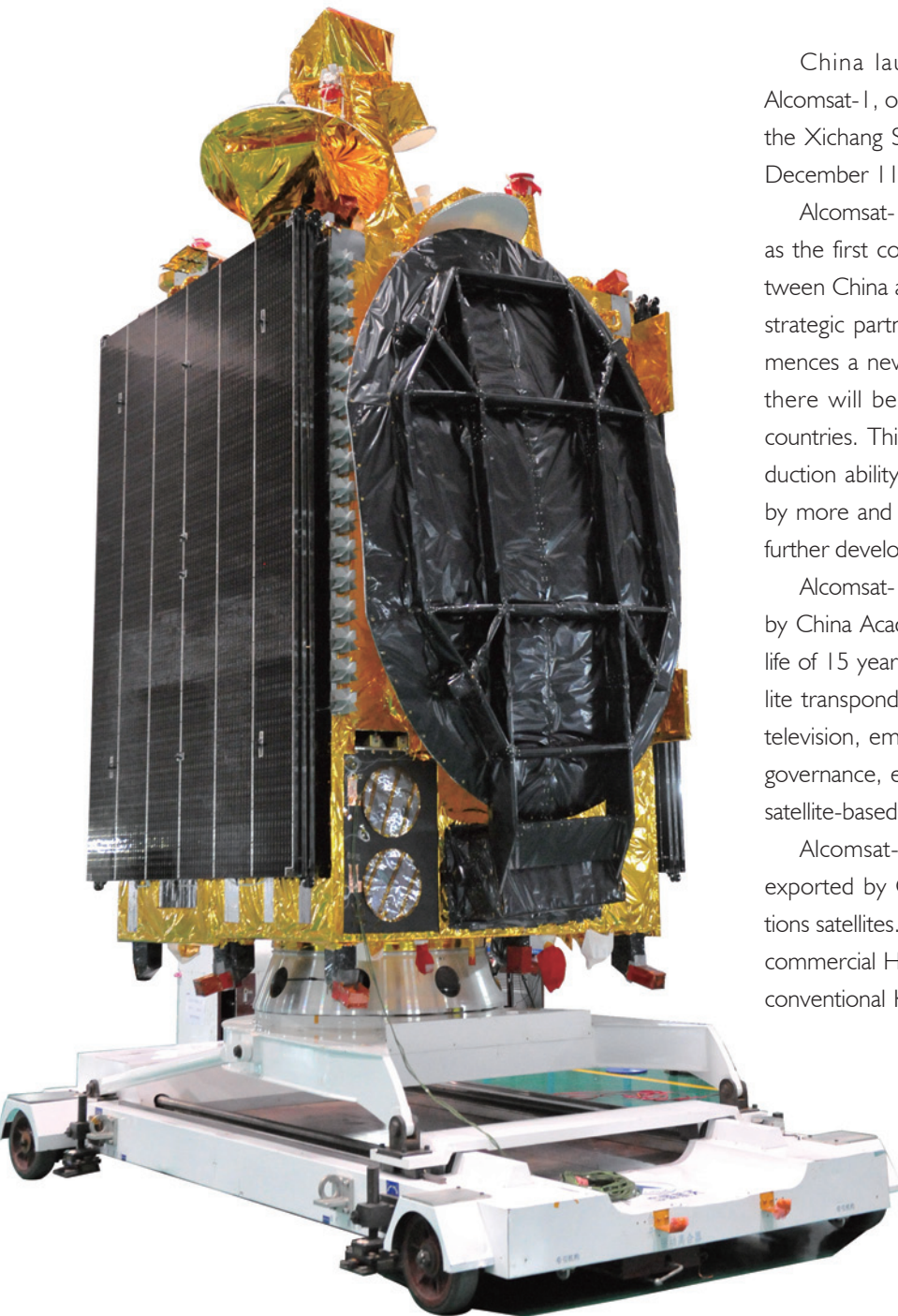


China Launches Communications Satellite Alcomsat-1 for Algeria



China launched Algeria's communications satellite, Alcomsat-1, on a LM-3B carrier rocket into its preset orbit from the Xichang Satellite Launch Center at 00:40 Beijing time on December 11 successfully.

Alcomsat-1 is Algeria's first communications satellite as well as the first cooperative project in the aerospace industry between China and Algeria. China and Algeria are comprehensive strategic partners. The successful launch of the satellite commences a new era of China-Algeria space cooperation where there will be more cooperative projects between the two countries. This also shows that China's development and production ability for communications satellites has won approval by more and more countries, laying a solid foundation for the further development of international space market.

Alcomsat-1 is a communications satellite that was developed by China Academy of Space Technology (CAST) with a design life of 15 years, based upon the DFH-4 platform with 33 satellite transponders. It will be used by Algeria for broadcast and television, emergency communications, distance education, e-governance, enterprise communication, broadband access and satellite-based navigation.

Alcomsat-1 is the 9th complete communications satellite exported by China. It is different from previous communications satellites. First of all, Alcomsat-1 is China's first international commercial High-Throughput Satellite (HTS). In addition to the conventional Ku band payload, the satellite uses Ka band multi-

Alcomsat-1 is preparing for launch
Photo: GUO Zheng

The LM-3B rocket
launch trajectory
Photo: SHI Xiao



beam antenna technology to support multi-users and large-capacity two-way communications. The satellite's communications capability has been largely improved with the two-way 5.9 Gbps bandwidth capability. In addition, new digital technology has been applied in the development of the Alcomsat-1. For example, it adopts the DFH-4 platform digital design, production and equipment from the complete satellite cable net with significantly improved efficiency, realizing the DFH-4 platform's standardized 3D model and digital design template, enhancing the digital design capability of communications satellites. Secondly, Alcomsat-1 is a customized satellite. The Institute of Telecommunication Satellite of CAST provided many customized services to meet the actual situation for Algeria. In order to help Algeria better use the communication satellite, CASC offered a more comprehensive package of solutions i.e. it was a ground-air-space integration project. The Alcomsat-1 project involves multi-fields, multi-disciplinary, ground-air-space integration operation including four major parts of the satellite, plus carrier rocket, ground control system, customer services for frequency and orbit slot consulting, insurance support, KHTT training, project supervision, and civil engineering.

The LM-3B carrier rocket was developed by China Academy of Launch Vehicle Technology (CALT). It was the 258th flight of the LM series launch vehicle.

This launch was conducted under the Alcomsat-1 project contract signed by China Great Wall Industry Corporation (CGWIC), under CASC, and the Algerian Space Agency (ASAL) in December 2013.

According to the contract, as the general contractor, CGWIC together with CALT, CAST and China Satellite Launch & Tracking Control General Department (CLTC) designed, manufactured, assembled, tested, launched and delivered in-orbit the communications satellite with ensuring the necessary satellite operation, control and application systems.

As the user of Alcomsat-1, ASAL is responsible for the in-orbit operation, management and application for the satellite.

China Satellite Communications Co., Ltd. under CASC is an enterprise that provides professional satellite communications and broadcasting services. It provided strong support in research and for the follow-up projects especially in the areas for assessment of user needs, system definition and frequency coordination, since the signing of the contract with ASAL in August 2012.

Alcomsat-1 was positioned at 24.8 degrees west longitude, in geostationary orbit, at Beijing time 20:45 on December 18 under the tracking control conducted by China Xi'an Satellite Control Center, that organized control stations and marine surveillance to track and control the satellite and conducted 5 variable track controls and 3 fixed-point captures, successfully finished the measurement and control tasks in the early orbit phases.

Azzedine Oussedik, Director of the ASAL, said China's successful launch of the Algerian space communications satellite Alcomsat-1 was the latest achievement of the comprehensive strategic partnership between the two countries.

Oussedik said, at the press conference, that the launch of this satellite would help Algeria strengthen its national sovereignty in telecommunications and ensure economic sustainable development through the establishment of an efficient and secure transmission network.

China also trained 323 technicians for Algeria to operate the satellite on their own and to develop more applications in the future, according to the contract. Oussedik believed that such high-level training was essential for the sustainable development of Algeria's future space technology. (WEI Jinghua/China Space News) ■