All-electric propulsion satellite by Boeing now fully operational

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An all electric propulsion satellite from Boeing is a world-first and it has started operations. Boeing announced it earlier this month. The satellite started service on August 31 —that is, the date marks the time when the satellite became fully operational.

Boeing built it for Bermuda-based ABS, which is a global satellite operator. The latter company said it has offices and executives in the United States, Dubai, South Africa, Germany, Philippines, Indonesia, Malaysia, Singapore and Hong Kong. The satellite expands ABS' communications services in the Americas, Europe, the Middle East and Africa.

The satellite involved is called the ABS-3A, a 702SP (small platform) satellite.

The spacecraft features an all-electric xenon-ion propulsion system. It has enough of the inert, non-hazardous element xenon to extend the satellite's operations beyond the expected spacecraft design life of 15 years, said Boeing.

Ryan Whitwam in *ExtremeTech* said that ABS-3A needs only 11 pounds (5kg) of xenon gas per year to maintain station-keeping, meaning it can remain operational much longer than a similar satellite with conventional thrusters.

ExtremeTech noted on Monday that this is the first satellite powered entirely by ion engines. Whitwam got to the significance of Boeing's announcement:

"Getting a satellite into orbit is only the first step in making it a useful piece of equipment. It also needs to arrive in the correct orbit and stay there, known as station-keeping. In the past this was accomplished with chemical propulsion, but more modern satellites have relied upon a mix

of chemical and electric propulsion. Now Boeing has announced the first all-electric ion propulsion satellite is fully operational."

ABS said the ABS-3A features 48 C and Ku-band active transponders (96 x 36 MHz equivalent) and high performance beams to support rapidly growing markets in the Americas and Africa as well as European and Middle East regions. "ABS-3A provides expansion capacity to reach markets servicing high-growth data, video, mobility and government applications."

"With a successful launch, testing and execution of orbit operations, we were able to deliver the first 702SP to ABS about one month earlier than planned," said Mark Spiwak, president, Boeing Satellite Systems International.

The ABS-Boeing activity does not end here; Boeing is under contract to build a second 702SP satellite for ABS, designated ABS-2A. The latter launches early next year.

Actually, plans for new satellites are for the ABS-2A and ABS-8, to launch in early 2016 and late 2017, respectively. ABS plans to add more satellites in the next two to three years to its fleet.

More information:
boeing.mediaroom.com/index.php?s=20295&item=129516