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SOURCE: WheelTug plc

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Aircraft Efficiency: New WheelTug System Saves About 7 Minutes Every Flight Departure

GIBRALTAR--(Marketwired - April 04, 2016) - A report by aviation consultancy AirInsight shows how aircraft and airport efficiency can be dramatically improved by cutting the time required for pushback operations, as well as eliminating the schedule variation and delay that add significantly to block times for airlines.

Airplanes operating from gates begin flights by being connected to a tow tug, which pushes the aircraft backward away from the terminal onto the ramp, where the tug is disconnected, the tug and safety marshals move away, and the pilot starts the jet engines and begins to taxi.

In data that has just been disclosed, the average pushback from the gate takes an average of 5 minutes 35 seconds, according to a new analysis of FlightWatching data on 6,700 narrowbody flights of a large international airline over a two-month period.

But many pushback actions take much longer, with 5% requiring 10 minutes or more. Pushback is a complex procedure, and many things can go wrong; airlines typically allow time in their schedules for delays and mishaps.

The new WheelTug aircraft electric drive system will shorten the pushback procedure, for example, by over 4 minutes. And it will also eliminate the long "tail" in the block times for a flight, that have to assume pushback action will take as many as 15 minutes in order to ensure that over 98% of flights into a hub will arrive on time for tight connections. Overall airport and airline efficiency and throughput can be dramatically improved.

WheelTug makes the process simpler and faster. The WheelTug e-taxi system drives an aircraft on the ground using electric motors in the nosewheels, eliminating the need for use of tow tugs or jet engines around terminals. The built-in motors can drive the aircraft backward without using a tug, then turn the aircraft and taxi forward even before the engines are started. That maneuver will require less than 1 minute. Instead of requiring up to three separate clearances from the control tower (to begin pushback, to start engines, and to taxi forward), pilots may need only one clearance: to use WheelTug to pushback and go to the runway for takeoff.

Reducing the complexity of pushback also reduces its risks and time variability, while improving operational and time consistency. By enabling improved reliability in pushback times, WheelTug may enable airlines to shorten their scheduled flight times by several additional minutes.

WheelTug will save a further 2-3 minutes per flight by enabling simpler pre-pushback procedures and eliminating jet blast from the gate area. WheelTug is onboard the airplane, so there is no delay waiting for the tug or crew: this is a common cause of flight delays and lost departure or arrival slots at coordinated airports. Simplified pushback preparations also will reduce the risks of ground crew delays. With WheelTug's optional TaxiCam providing

pilots with 360° visibility around the aircraft, pilots won't need to wait for ground marshals or

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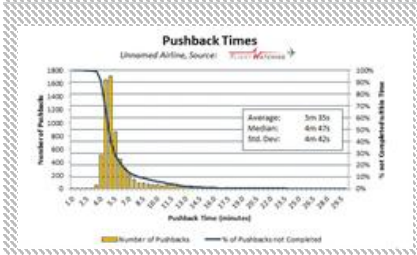

Pushback Times

View Image

wing walkers before beginning pushback.

Jet blast near other aircraft can also delay a flight departure. Traffic controllers delay a gate departure if the aircraft pushing back might hit another aircraft with jet blast when it starts its engines. Because WheelTug enables aircraft to taxi without using their engines, WheelTug reduces the jet blast risks, and departure delays, in terminal areas.

The WheelTug aircraft electric drive system is expected to save airlines time, from 7 to 20 minutes per flight depending on the extent of utilization; and reduce costs, including engine maintenance and damage repair, brake wear, injuries, and fuel. Overall, the WheelTug system is projected to save well over $1 million per plane per year in airline costs. The initial version, for the Boeing 737NG family, is expected to enter service in 2018.

WheelTug plc is developing the WheelTug aircraft electric drive system, and is based in Gibraltar. A full listing of WheelTug partner companies and airline customers is on the company's website at http://www.wheeltug.gi.

Forward-looking statement.

Image Available:
http://www.marketwire.com/library/MwGo/2016/4/4/11G091690/Images/PushbackTimes-cc819094729e8633b4b8390a17ef0f12.jpg

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