

## Orbiter Press Release August 30<sup>th</sup> 2016

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### 30 August 2016 – Orbiter 2016 Space Flight Simulator released

The latest release of Orbiter Space Flight Simulator has been published today. The first major release for six years, this edition introduces support for planetary surface elevations and an improved surface collision model. Together with higher resolutions for surface textures and improved visualisation of water surfaces, this provides a significant step forward in visual quality of the simulation.

To make use of the new rendering capabilities, new textures have been processed for most of the planetary bodies provided in the base package, in particular for Earth, the Moon and Mars, with texture maps based on imagery from Landsat-7, Lunar Reconnaissance Orbiter and Mars Global Surveyor, amongst other sources. Detailed high-resolution textures for some planets are available as optional downloads.

The physics engine powering Orbiter has been largely rewritten and cleaned up, and now allows Orbiter to sub-sample critical frames for higher numerical precision. This becomes particularly important during surface collisions, where forces change rapidly over short time scales. An improved model for surface collision, including support for docked spacecraft assemblies on the ground, now allows to build complex spacecraft designs, such as staged launchers, from individual components.

Some of the default spacecraft shipping with Orbiter have been updated, including an all-new virtual cockpit for the Delta-glider, and a new ascent autopilot for the space shuttle that performs its attitude adjustments by engine gimbaling.

Support for external graphics engines has been enhanced, and the 3<sup>rd</sup>-party *D3D9Client* now provides significant improvements in visualisation and performance over the built-in engine.

Multiple bug fixes and feature enhancements have been incorporated in this latest edition.

Orbiter is free for personal and non-commercial use and can be downloaded from [orbit.medphys.ucl.ac.uk](http://orbit.medphys.ucl.ac.uk). In addition to the core simulator software, users have a choice of hundreds of add-ons created by members of the growing community, ranging from historic Apollo and Space Shuttle missions to futuristic space plane concepts, new instrumentation and tutorials.