



SWISS WATCH MAKER
DELIVERS KEY TECHNOLOGIES

OMEGA joins forces with Solar Impulse as Main Partner, Technology Provider and Time Keeper

In May 2006 the Solar Impulse team announced it had concluded a partnership with Omega, the Swiss watchmaker and veteran of six moon landings and innumerable flights in space on the wrists of American astronauts and Russian cosmonauts. In backing Solar Impulse, Omega brings the power of a world-wide brand name to bear on another extraordinary mission at the frontiers of technology.

Omega, however, brings more than its global brand visibility and substantial financial backing to the Solar Impulse project. As a member of the Swatch Group, Omega has privileged access to the advanced technologies, experience and expertise of leading technology companies in the Group in the areas of automation, the development of test equipment and hybrid drive propulsion technology.

HYBRID DRIVE PROPULSION
TECHNOLOGY

Omega's support is of critical importance to the Solar Impulse project, in particular with respect to the technological expertise that enabled the development, in the 1980s, of the Swatchmobile hybrid propulsion system, along with the services of one of the experts who oversaw development of the innovative automobile's hybrid-drive engine.

The Swatchmobile was conceived - far ahead of its time - as a hybrid vehicle that combined a thermal motor with four electric motors powered by a rechargeable battery. The numerous technological challenges facing the Swatchmobile development engineers inspired them to conceive and implement totally innovative solutions in terms of propulsion electronics, electric motors, battery management and security. It is this invaluable expertise and exceptional experience that Omega has made available to the Solar Impulse development team.

SOLAR IMPULSE SYSTEM
TEST BENCH

In May 2007, the Solar Impulse team and Omega announced the development of a performance simulation and testing system (system test bench) for the Solar Impulse project. The system test bench is an electromechanical system designed to enable the Solar Impulse development team to simulate and test the performance of the airplane's electrical systems at the conceptual stage, i.e. before production of the respective components begins.

In developing this bench, the OMEGA team made use of previous experience in Swatch automation and testing of hybrid cars. The team will test the airplane's electrical propulsion systems, including the batteries, the electric motors and the connections to the propellers. In particular, because full-sized solar panels for the airplane are not yet available for testing, the system test bench will allow the Solar Impulse team to simulate the performance of the solar panels destined to provide the sole source of energy to the plane's four electric motors.

The tests will determine the effective energy delivered by the solar cells to the motors. The team will also analyze, the performance of the motor under normal conditions and at temperatures ranging from -40°C to +55°C, battery capacity and the performance of the airplane's controls.

Omega is proud to lend its broad-ranging technical expertise, global brand visibility, financial and communications support to the Solar Impulse project led by Bertrand Piccard and André Borschberg. The recent successful completion of the Solar Impulse "virtual flight" has demonstrated the extraordinary potential of the project, not only to catch the public's imagination, but to pioneer technologies that bring the future into the present.

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