PAST AND PRESENT PIONEERS OF AEROSPACE Innovation in Aerospace is fueled by the achievements of those who dare to break barriers in the past THE EAGLE Apollo 11 launched on July 16, 1969, at 9:32 am. Four days later, it landed on the moon in the Sea of Tranquility. Neil Armstrong uttered the famous words, "That's one small step for man, one giant leap for mankind." **EUROPEAN SPACE AGENCY** PHILAE PROBE On November 12, 2014, Dr. Martin Hilchenbach and his team at the Max Planck Institute <u>successfully conducted</u> the first-ever soft landing on a comet moving 135,000 km THALES ALENIA SPACE ITALIA per hour (84,000 mph). Thales Alenia Space Italia and the European Space Agency partnered to create an independent, reusable space transportation system for unmanned missions. On February 11, 2015, their new vehicle performed a esa_{IXV} flawless suborbital flight with atmospheric reentry at four times the speed of sound as well as a successful sea landing. **VOSTOK 1 SOLAR IMPULSE** Solar Impulse 2 completed the On April 12, 1961, the first round-the-world flight by Vostok 1 spacecraft launched solar-powered airplane. It flew into space. Yuri Gagarin was onboard. Reaching a height of 40,000 km to circumnavigate the globe without using a 327 km (203 mi), he was the single drop of fuel. first human in space. **AIRBUS** Airbus redefined the flying experience by creating an extra-wide body aircraft **BELL X-1** composed of more than 50% Built in the shape of a machineof composite materials to create gun bullet, the Bell X-1 was a lighter, quieter and more designed to break the sound fuel-efficient aircraft. barrier. On October 14, 1947, test pilot Chuck Yeager broke it. WRIGHT FLYER **JOBY AVIATION** The first manned aircraft, the The Joby S2, <u>a two-seater, virtual</u> Wright Flyer, was invented by take-off and landing (VTOL) electric airplane, is capable of the Wright Brothers in 1903. The first flight of the Wright safely and efficiently transporting Flyer lasted only 12 sec. passengers and is designed to solve the world's morning commute as we know it. **HOT-AIR BALLOON** The modern era of flight took off in 1783 with the hot-air balloon. Its inventors, the Montgolfier brothers, got the idea after observing that a paper or fabric bag would rise WICHITA STATE UNIVERSITY if heated air flowed into it. **UNMANNED AERIAL SYSTEM** A group of Wichita State University students, instructors and Dassault Systèmes experts worked together to build a modular, multi-role unmanned aerial system. Using the **3D**EXPERIENCE® platform, they were able to cut a typical threeyear development cycle in half. BLAST OFF into the new era of aerospace with the 3DEXPERIENCE® platform