

NASA SEES RECORD NUMBER OF ASTRONAUT APPLICATIONS

WASHINGTON: NASA has received a record 18,300 resumes from people keen on becoming astronauts, the US space agency said Friday. The number of applications for a spot in NASA's 2017 class is almost triple the amount that came in during the last recruitment call for the 2012 class. And it shatters the previous record of 8,000 in 1978.

"It's not at all surprising to me that so many Americans from diverse backgrounds want to personally contribute to blazing the trail on our journey to Mars," NASA Administrator Charlie Bolden, a former astronaut, said in a statement. But only a chosen few will actually see their galactic career goals realized.

Over the course of the next year and a half, a selection board will whittle down the applications and invite only the most highly qualified candidates for interviews at the Johnson Space Center in Houston, Texas. In the end, a mere eight to 14 lucky individuals will be asked to report for training. NASA expects to announce its new class in mid-2017. The timeframe for submitting applications opened on December 14

and closed Thursday, with the space agency taking to social media to get the word out. Training for the chosen candidates includes a focus on spacewalking and teamwork, as well as some command of Russian language. Those who make it through will be given technical duties at Johnson's Astronaut Office. They will then be assigned to the International Space Station, the Orion spacecraft for deep space exploration or one of two commercial crew spacecraft currently in development—SpaceX's Dragon crew capsule and Boeing's CST-100 Starliner.

With the American spaceflight program grounded since 2011 when the space shuttle was retired, NASA's current active corps currently comprises 47 members, down from 149 in 2000 at the peak of the space shuttle era. In its call for recruits, NASA encouraged pilots, engineers and other scientists to apply. Qualified candidates need to be US citizens and have at least a bachelor's degree in engineering, science, computer science or math, as well as three years of professional experience or at least 1,000

hours of pilot-in-command time in jet aircraft. They also have to be physically fit and pass a "NASA long-duration astronaut physical." More than 300 people have been hired as NASA astronauts since the US space agency's first corps of seven was selected in 1959 as part of Project Mercury, which sent men into orbit around the Earth. "A few exceptionally talented men and women will become the astronauts chosen in this group who will once again launch to space from US soil on American-made spacecraft," Bolden said. — AFP

VIRGIN GALACTIC ROLLS OUT NEW SPACE TOURISM ROCKET PLANE GOAL OF TURNING ORDINARY CIVILIANS INTO ASTRONAUTS

MOJAVE: Virgin Galactic rolled out a new version of its SpaceShipTwo space tourism rocket Friday as it prepares to return to flight testing for the first time since a 2014 accident destroyed the original craft, killing a pilot and setting back the nascent industry.

A Land Rover with Virgin Galactic founder Sir Richard Branson standing through the sunroof pulled the ship in front of an audience inside a hangar at Southern California's Mojave Air & Space Port, where it was assembled. Branson's 1-year-old granddaughter, Eva-Deia, helped by her mother, christened the craft by breaking a little bottle of milk over its nose. The baby is the daughter of Branson's son, Sam, and his wife, Bellie.

"All of us in this room need to pinch ourselves ... isn't she quite beautiful," Branson told the audience. The ship is the size of a small corporate jet. It was named Virgin Spaceship Unity at the suggestion of theoretical physicist Stephen Hawking, whom Branson promised a free ride into space.

SpaceShipTwo is designed to be flown by a crew of two and carry up to six passengers on a high-speed suborbital flight to the fringes of space. At an altitude above 62 miles, passen-

gers will experience a few minutes of weightlessness and see the Earth below.

Too important to give up

After years of development, Virgin Galactic appeared to be nearing the goal of turning ordinary civilians into astronauts when the first SpaceShipTwo broke apart on Oct 31, 2014, during its fourth rocket-powered flight. Wreckage fell to the Mojave Desert floor.

"When we had the accident, for about 24 hours we were wondering whether it was worth continuing, whether we should call it a day," Branson told The Associated Press. He said engineers, astronauts and members of the public helped convince him that space travel is too important to give up on.

The crash investigation found that co-pilot Michael Alsbury prematurely unlocked the so-called feathering system that is intended to slow and stabilize the craft as it re-enters the atmosphere. Alsbury was killed, but pilot Peter Siebold, although seriously injured, parachuted to safety. The "feathers" - a term derived from the design of a badminton shuttlecock - are tail structures that extend rearward from each wingtip. They are designed to

swivel upward at an angle to create drag, preventing a buildup of speed and heat, and then rotate back down to normal flying position as the craft descends into the thickening atmosphere.

A National Transportation Safety Board investigation found that Scaled Composites, a company that was developing SpaceShipTwo with Virgin Galactic and was responsible for its test program, should have had systems to compensate for human error. The NTSB chairman, Christopher Hart, said it wasn't a matter of shortcuts but of not considering a crew member would make the mistake that occurred.

Virgin Galactic subsequently assumed full responsibility to complete the test program. Company officials said that the new spaceship will have a device to prevent a similar pilot error. The company stressed in a statement Thursday its commitment to testing from the level of individual parts on up to the complete craft.

Obvious tests

"Our team's job is to plan out not just the obvious tests but also the strange and inven-



MOJAVE: In this Nov 1, 2014 file photo, wreckage lies near the site where a Virgin Galactic space tourism rocket, SpaceShipTwo, crashed in the desert.

tive ones, to conduct those tests, and to use the data from those tests to re-examine everything about our vehicle to ensure we can take the next step forward," it said. The company, which has invested more than \$500 million in the program, did not project a timeline for actually carrying space tourists, noting that "our new vehicle will remain on the ground for a while after her unveiling, as we run her through full-vehicle tests of her electrical systems and all of her moving parts."

SpaceShipTwo is the successor to SpaceShipOne, the winged rocket plane that won the \$10 million Ansari X Prize in 2004 by demonstrating a reusable spacecraft capable of carrying three people could make two flights within two weeks to at an altitude of

least 62 miles. The prize announced in 1996 was intended to spur the development of private manned spaceflight in the same way the Orteig Prize offered in 1919 fostered trans-Atlantic aviation. Charles Lindbergh won that prize with his nonstop flight from New York to Paris in 1927.

Like SpaceShipOne, SpaceShipTwo is carried aloft beneath the wing of a mother ship - a special jet aircraft that releases it at an altitude of about 45,000 feet. After gliding for a few moments, SpaceShipTwo's pilots ignite the rocket engine to send the craft hurtling toward space. After reaching the top of its suborbital trajectory, the spacecraft begins falling back toward Earth and glides to a landing on a runway. — AP



MOJAVE: In this Sept 25, 2013, file photo, British entrepreneur Richard Branson poses with the first SpaceShipTwo at a Virgin Galactic hangar at Mojave Air and Space Port. — AP photos

PLUTO'S LARGEST MOON LIKELY FRACTURED BY OCEAN: NASA

WASHINGTON: Images from the New Horizon space probe suggest that Pluto's moon Charon once had a sub-surface ocean that has since frozen and expanded, causing the surface to stretch and fracture, NASA said Friday.

Charon's surface was photographed by the New Horizons's Lorri (Long-Range Reconnaissance Imager) camera as the spacecraft flew past the moon in July 2015 at a distance of 48,900 miles. The detailed pictures show a system of "pull-apart" tectonic faults on the moon's equator.

These faults and fractures run "at least 1,100 miles long and in places there are chasms 4.5 miles deep. By comparison, the Grand Canyon is 277 miles long and just over a mile deep," NASA said. The chasms are the longest ever observed in the solar system, NASA said.

Charon's outer layer today is mainly water ice. But millions of years ago, when Charon was young, scientists believe that layer was

kept warm "by heat provided by the decay of radioactive elements, as well as Charon's own internal heat of formation." The moon could have been warm enough to cause the water ice to melt deep down, creating a subsurface ocean.

"But as Charon cooled over time, this ocean would have frozen and expanded (as happens when water freezes), lifting the outermost layers of the moon and producing the massive chasms we see today," NASA said. Pluto, a dwarf planet in the far reaches of the solar system some 3.6 billion miles away from the sun, has five moons. Charon, with a diameter about half that of Pluto, is the largest of them. Other moons in the solar system that are closer to the sun still have liquid oceans under their surface. Experts believe that oceans on Europa, one of Jupiter's moons, and on two of Saturn's moons, Ganymede and Enceladus, are the best places in the solar system to look for microbial life forms. — AFP

CLINIC PAGE



Kuwait Times
248 33 199

Dr. Fahad Al-Mukhaizeem
مؤيد علي المخيزيم

استشاري أطفال
M.B. Bch. FRCPC. FAAP. PEM

Al-Jabriya - Block 1A - St. 1 - Mazaya Building - 15th Floor - Clinic B - Tel.: 22269369 - Fax: 22269368