



Fastest...

Whether a product of the natural or the man-made world, speed retains the same power to thrill. From tanks to roller-coasters, biplanes to spaceships, the story of speed records is also the story of human development – how we have pushed the boundaries of technological possibilities in order to defy nature and travel faster than ever before.

0–100 km/h

Human (running)

37.57 km/h
On 16 Aug 2009, Usain Bolt (JAM) won the World Championships 100 m in 9.58 sec in Berlin, Germany. His average speed was 37.57 km/h (23.34 mph), with a peak speed nearer 44 km/h (27.34 mph).

Land animal (long distances)

56 km/h
The pronghorn (*Antilocapra americana*) is an antelope-like ungulate found in the USA, Canada and Mexico. It has been observed moving at 56 km/h (34.7 mph) over 6 km (3.7 mi).

Greyhound

67.2 km/h
On 5 Mar 1994, a greyhound named Star Tittle was timed at 67.2 km/h (41.7 mph) on a straight track at Wyoming in New South Wales, Australia. It blitzed the 400-yd (1,200-ft; 365.7-m) course in 19.57 sec.

Tank

82.23 km/h
A production standard S 2000 Scorpion Peacekeeper tank developed by Repaircraft PLC (UK) achieved a speed of 82.23 km/h (51.10 mph) at the OmetIQ test track in Chertsey, Surrey, UK, on 26 Mar 2002. Powered by an RS 2133 high-speed diesel engine, the tank was fitted with applique hull armour, ballistic skirts and a replaceable rubber pad track.

Monowheel motorcycle

98.464 km/h
Riding WarHorse, Kevin Scott and the UK Monowheel Team (all UK) achieved a speed of 98.464 km/h (61.18 mph) at Elvington airfield in North Yorkshire, UK, on 20 Sep 2015. It took four engineers two years to build the carbon-fibre-framed vehicle.



100–300 km/h

Land mammal (short distances)

104.4 km/h
During research conducted in 1965, adult female cheetah (*Acinonyx jubatus*) reached a speed of 29 m/s (104.4 km/h; 64.8 mph) over a distance of 220 yards (201.1 m; 660 ft).

Bird (in level flight)

127 km/h
In a report published by researchers working in the sub-Antarctic, the mean estimated ground speed recorded for a satellite-tagged grey-headed albatross (*Thalassarche chrysostoma*) was 127 km/h (78.9 mph). This speed was sustained for more than 8 hr while the albatross made for its nest at Bird Island, South Georgia, in the middle of an Antarctic storm.

Human-powered vehicle

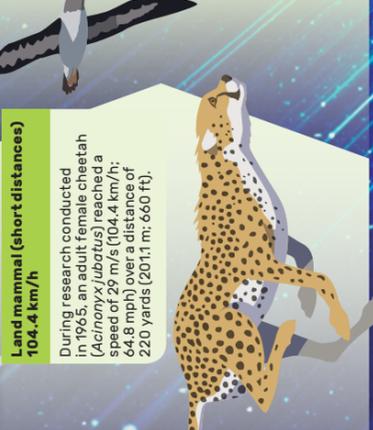
139.45 km/h
Riding his Team AeroVelo's Eka bike at the World Human Powered Speed Challenge, Todd Reichert (CAN) achieved a speed of 139.45 km/h (86.65 mph) on 19 Sep 2015. It was the third time in three days that the fearless Canadian had set a new record during the event, which was held near Battle Mountain in Nevada, USA.

Roller-coaster

240 km/h
Formula Rosso at Ferrari World in Abu Dhabi, UAE, can accelerate to 240 km/h (149.1 mph). Even when travelling upward, it covers 52 m (170 ft) in 4.9 sec. It opened to the public on 4 Nov 2010.

Tennis serve

263 km/h
On 9 May 2012, Samuel Groth (AUS) served an ace recorded at 263 km/h (163.4 mph) during an ATP Challenger event in Busan, South Korea. It came during Groth's second-round tie against Uladzimir Ignatik (BLR). The Aussie pro also hit serves of 255.7 km/h (158.8 mph) and 253.5 km/h (157.5 mph) during the match – both of which surpassed Ivo Karlović's (HRV) previous record of 251 km/h (156 mph). Although he gained a world record, Groth lost the match 6–4, 6–3.



300–1,000 km/h

Bird (in a dive)

389.46 km/h
The peregrine falcon (*Falco peregrinus*) has reached an estimated terminal velocity of 300 km/h (186.4 mph) in a diving stoop. No animal is capable of reaching a faster speed than the falcon in full flight.

Surface wind speed (high altitude)

371 km/h
On 12 Apr 1934, Mount Washington (elev. 1,916 m; 6,286 ft) in New Hampshire, USA, experienced a surface wind speed of 371 km/h (230 mph).



Biplane

520 km/h
In 1941, the Fiat CR.42DB attained a speed of 520 km/h (323 mph). The Italian biplane was powered by a 753-kW (1,010-hp) Daimler-Benz DB 601A engine. Despite its speed, only a single prototype was ever constructed, as biplanes were eclipsed by new monoplanes.

Quad bike

315.74 km/h
Terry Wilmetth (USA) reached an average speed of 315.74 km/h (196.19 mph) over two runs at Madras Airport in Oregon, USA, on 15 Jun 2008. His ALSR Rocket Raptor version 6.0 was a modified Yamaha Raptor 700 with a hybrid rocket thruster.

Boat

511.09 km/h
The world water-speed record is 275.97 knots (511.09 km/h; 317.58 mph), by Ken Warby (AUS) in the jet-powered hydroplane *Spirit of Australia* on Blowering Dam Lake, New South Wales, Australia, on 8 Oct 1978.



1,000–20,000 km/h

Car (land-speed record)

1,227.985 km/h
Andy Green (UK) drove Thrust SSC at 1,227.985 km/h (763.035 mph; Mach 1.020) on 15 Oct 1997 in the Black Rock Desert in Nevada, USA. Powered by two Rolls-Royce jet engines, Thrust SSC was the **first car to break the sound barrier**.

Human (in freefall)

1,357.6 km/h
Felix Baumgartner (AUT) fell from the edge of space (84,333 ft) during the Red Bull Stratos mission at USA, on 14 Oct 2012.

Airliner

2,587 km/h
FIRST on 31 Dec 1968, the Tupolev Tu-144 was reported to have reached Mach 2.4 (2,587 km/h; 1,607 mph), although its normal cruising speed was Mach 2.2. Following two crashes, the aircraft was withdrawn from service in 1978.

Manned aircraft

3,629.56 km/h
The highest recorded speed in a manned aircraft capable of taking off and landing under its own power is 3,529.56 km/h (2,193.17 mph). It was achieved by Captain Eldon Joersz and Major George Morgan Jr (both USA) in a Lockheed SR-71A "Blackbird" near Beale Air Force Base in California, USA, on 28 Jul 1976.



Maglev train

603 km/h
The LO (AO7) series is a magnetically levitated (maglev) train series operated by the Central Japan Railway Company. On 21 Apr 2015, the LO achieved a speed of 603 km/h (374.68 mph) on the Yamanaishi Maglev Line, a test track in Yamanaishi, Japan.



> 20,000 km/h

Human (absolute)

39,897 km/h
On 26 May 1969, the manned module of Apollo 10, at 39,897 km/h (24,790.8 mph) on its final Earth return flight, became the first human-made object to re-enter Earth's atmosphere at a speed of 39,897 km/h (24,790.8 mph). Astronauts: Col Thomas Stafford, Cdr Eugene S. Cernan and Cdr John Young.

Atmospheric entry into Earth's atmosphere

49,660 km/h
On 15 Jan 2006, NASA's Stardust spacecraft successfully returned to Earth after a seven-year mission to collect samples of comet Wild 2. It entered Earth's atmosphere at a velocity of 46,660 km/h (28,993 mph).

Planet

172,248 km/h
Mercury orbits the Sun at a range distance of 57.9 million km (35.9 million mi), and has an orbital period of 87.9686 days. Its average orbit speed – 172,248 km/h (107,030 mph) – is almost twice as fast as that of Earth.

Approaching galaxy

1,508,400 km/h
Although the universe is expanding, there are a small number of galaxies that are moving closer to our Milky Way galaxy. The closest is the Virgo Cluster, moving towards our Milky Way at a speed of 419 km/sec (260 mi/sec).

Star

2,400,000 km/h
On 8 Feb 2005, astronomers from the Harvard-Smithsonian Center for Astrophysics in Massachusetts, USA, discovered a star, SDSS J090745.0+024507, travelling at 2.4 million km/h (1.5 million mph).

Speed possible

1,079,252,948.8 km/h
The fastest speed possible in the universe is the speed of light. This is achieved by light itself and other forms of electromagnetic radiation, such as radio waves, when travelling through a vacuum. The speed of light is 299,792,458 m/sec (983,571,056 ft/sec).

