

Nature inspiring robotics.

For many, many years nature has inspired engineers in evolving and enhancing technology to create powerful and proficient robots. Here are some examples of current creative developments.

Birds, Dogs, Snakes and Elephants are just some of the animals inspiring mechatronic engineers to design state of the art robots. Here maxon takes a closer look.

The bionic bird A French company has developed a bionic bird toy that can be controlled with a smartphone. A lightweight 9 grams, the bird can achieve speeds of up to 20 km/h and has a range covering more than 100 metres. The bird presents an alternative to propeller drones.

ANYmal Engineers at ETH Zurich developed a four-legged robot that was made for very harsh conditions and can move autonomously. Since its inception in 2009, ANYmal has evolved into machine that can conquer inclines, run, jump and press elevator buttons. Using laser sensors and cameras, the robot continuously creates a map of its terrain, knows where it is and navigates through the changing landscape.

Weighing around 30 kg it can carry a payload up to 10kg and run for 2 hours on a fully charged battery. The future use for the ANYmal is expected for inspections, rescue operations or the entertainment industry.

The underwater snake

A modular underwater robot snake has been developed for use in inspections, maintenance and repair work reaching distances and places that conventional underwater robots are unable to reach. The robot is flexible and has moving connecting parts with the option of mounting tools. Inside the connecting modules are maxon brushless DC motors with customised gearheads. The underwater robot has been in constant development for 10 years with the current model reliant on a cable. Future versions include keeping the robot on the bottom of the ocean indefinitely at a docking station from where it can launch into action when needed.

SnakeBot

This robot was named so because it moves like a snake. With a diameter of 6cm it can fit into narrow spaces making it suitable for inspection in unstable environments such as after earthquakes. With independent modules the SnakeBot can also climb up plant legs and posts. There are approx.. 20 maxon EC20 flat brushless motors in the snake, selected for both their high torque and ability to withstand short periods of overload.

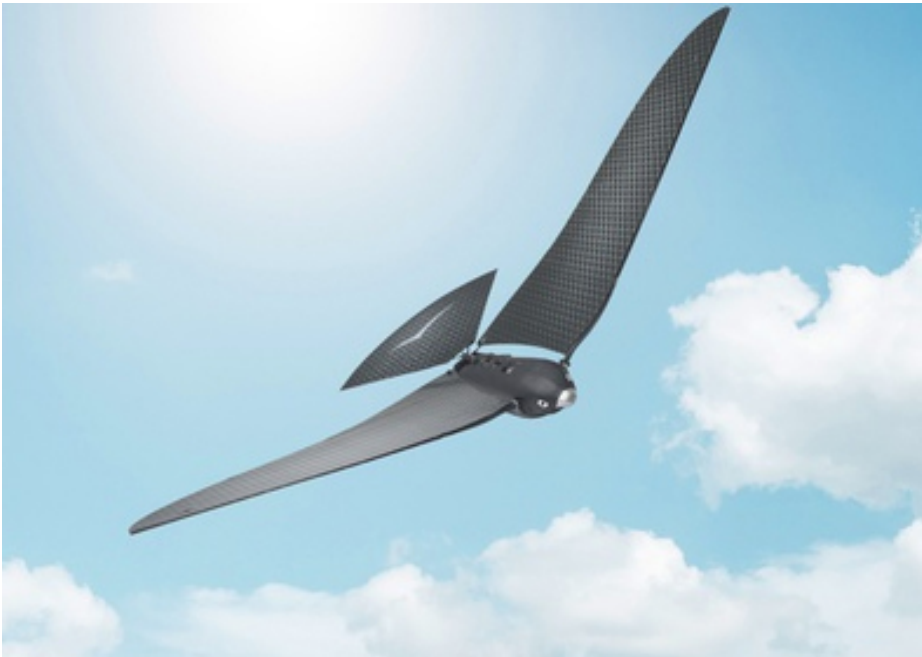
BionicMotionRobot

This robot is modelled on an octopus's tentacles and elephant's trunk. With skin made of innovative fibre technology this robot offers flexible movement that can bend in three different directions at the same time. The robot is pneumatic and lightweight with 12 degrees of freedom and can carry up to three kilos of payload.

For further information on any of these examples please contact maxon motor Australia tel. +61 2 9457 7477.

Length of this press release: 459 words

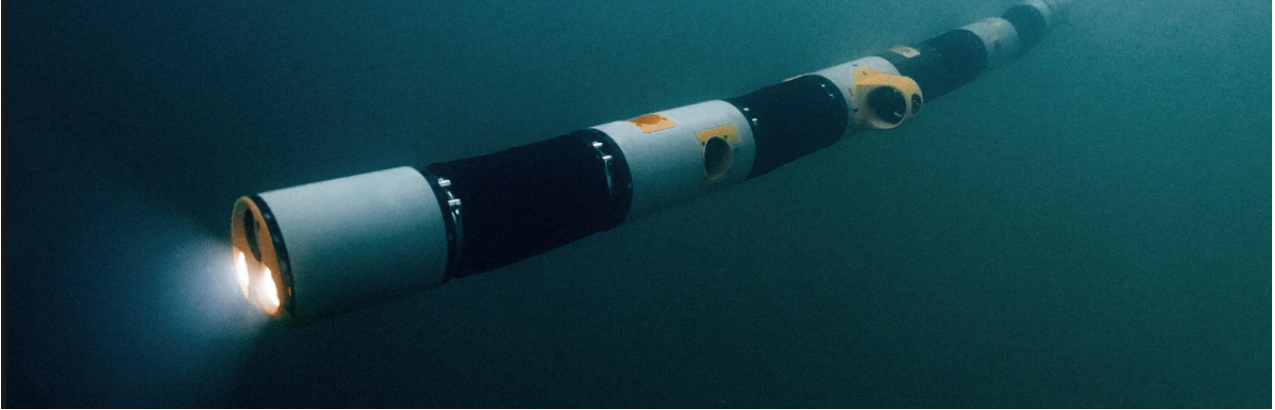
The media release is available on the internet at: www.maxonmotor.com.au



The bionic bird
© maxon motor



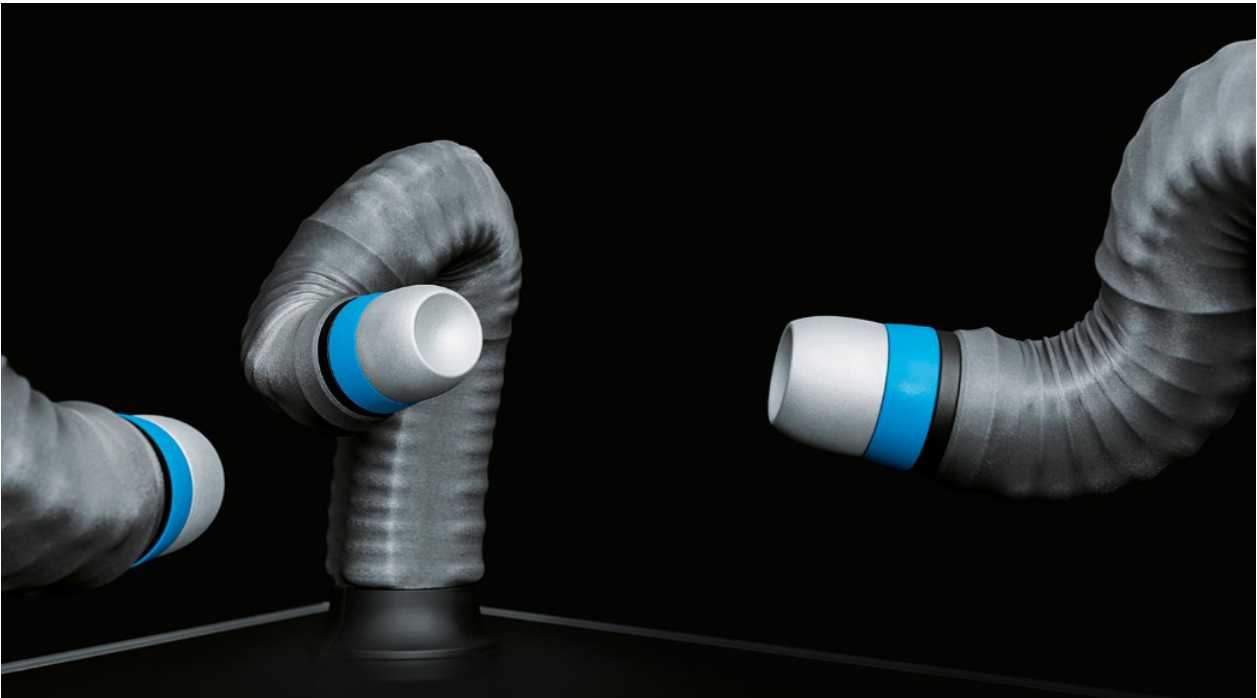
The ANYmal
© maxon motor



The underwater snake robot
© maxon motor



Robotic snake
© maxon motor



The BionicMotionRobot
© maxon motor

maxon motor Australia Pty Ltd

Unit 1, 12-14 Beaumont Road

Mt Kuring-Gai NSW 2080

Tel: +61 2 9457 7477

Fax: +61 2 9457 8366

info.au@maxonmotor.com

www.maxonmotor.com.au

Twitter [@maxonmotoraust](https://twitter.com/maxonmotoraust)