

## Saving the lives of preemie babies.

**Paul is a robotically simulated training model of a 27 week old preemie baby. Created by an Austrian paediatrician to help train medical practitioners, maxon motors replicate the breathing movements of the baby.**

Meet Paul. The smallest and most advanced high-end patient simulator in the world. Paul is a 27 week old preemie. He is 35cm long and weighs 1kg. He breathes on his own with a consistent heartbeat. His chest gently moves up and down, veins and arteries are visible under his thin skin. Paul needs artificial respiration and will sometimes turn blue.

Born to train medical staff in emergency situations that occur every day in neonatal intensive care units, the creator of Paul is Jens-Christian Schwindt, an ex-paediatrician in the Division of Neonatology of the Vienna General Hospital. In 2015 Schwindt started his company SIMCharacters, that arose from a need where "Critical situations in preterm care have to be trained time and time again, under as realistic conditions as possible, to ensure that everything goes equally smoothly in a real crisis" says Schwindt. With the ability to evoke emotions and cry, the baby looks exceptionally lifelike and is full of high-technology on the inside. His skull hosts a Linux system, he is charged cordlessly by induction using a customary charging pad. Paul can be operated for up to two hours. When he has difficulty breathing or the oxygen saturation drops, his head turns blue. Sophisticated hardware and software fit into a silicone skin.

maxon DC motors, gearheads and sensors ensure that the thorax and abdomen move in accordance with the programmed test scenarios. Three DCX 12mm motors with gearhead and sensors are used – two for Paul's thorax and one for the abdomen. Another maxon DCX 6mm motor moves a valve in the lung of the simulator, with a total of 40 motors installed. The motors were selected for their torque, density and quiet running. The robust design and the ironless maxon rotor make these motors a perfect fit for this unique application. Maxon's DCX motors are brushed and available in sizes from Ø 6 – 35 mm. They can be easily configured online and customer can select from graphite and precious metal brushes, sintered and ball bearings, and many other components.

For more information please contact maxon motor Australia tel. +61 2 9457 7477.

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The media release is available on the internet at: [www.maxonmotor.com.au](http://www.maxonmotor.com.au)



*Paul a model of a 27 week preemie baby  
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*Neonatal staff in training  
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