

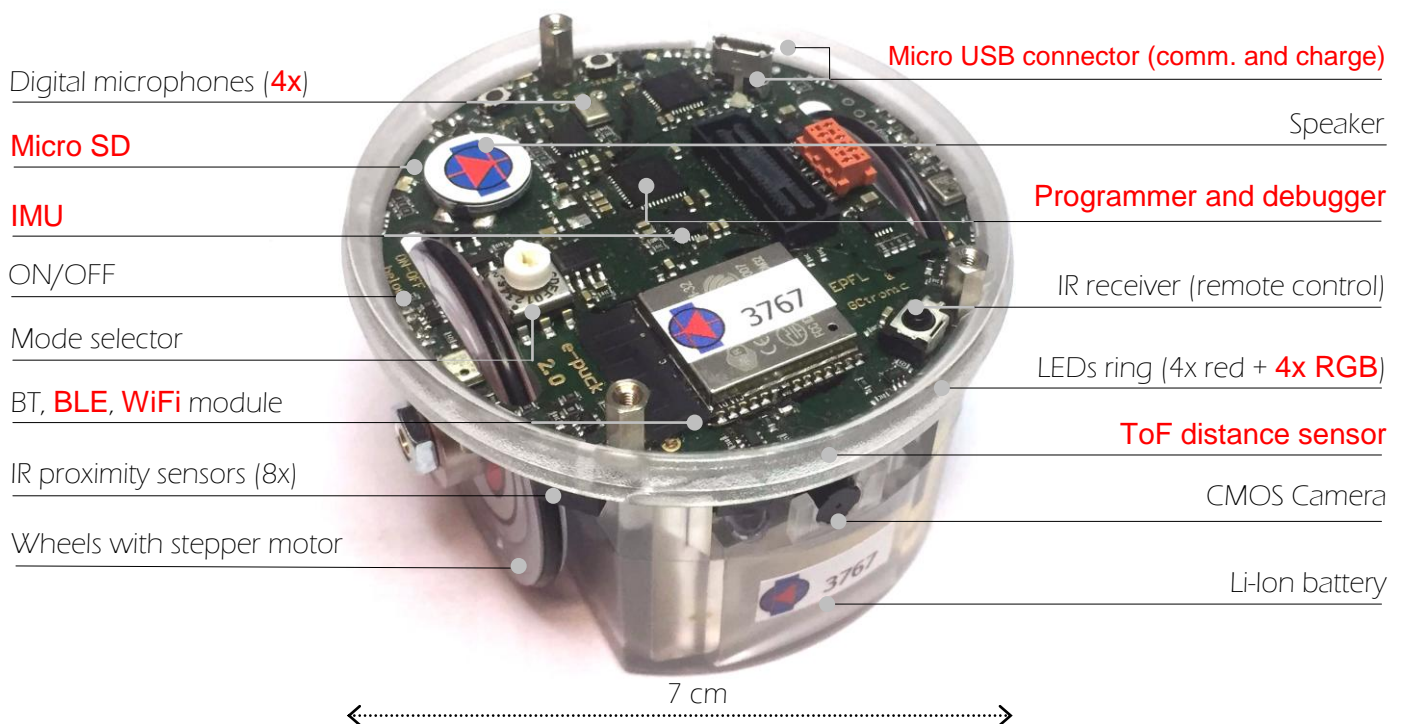
e-puck2

EDUCATIONAL AND RESEARCH MINI MOBILE ROBOT

Swiss Made

e-puck2 is the latest mini mobile robot for teaching purposes developed at the Swiss Federal Institute of Technology in Lausanne (EPFL) in collaboration with GCTronic. This is an evolution of the successful e-puck robot already in use in many research and educational institutes. Now with WiFi and USB connectivity and charge.

While maintaining compatibility in most scenarios with its predecessor (same shape and mechanics), e-puck2 features many improvements. It is powered by an **STM32F4 microprocessor** and features a large number of sensors in its standard configuration: IR proximity, sound, **IMU**, camera, **ToF distance sensor**. It supports BT, **BLE** and **WiFi** communication and **USB charging**. It includes also an onboard programmer and debugger. The e-puck2 hardware and software is fully open source giving low-level access to every electronic device and offering unlimited extension possibilities. A flourishing user community provides software, documentation and discussion groups. Moreover an extensive wiki is available at the GCTronic website (www.gctronic.com).



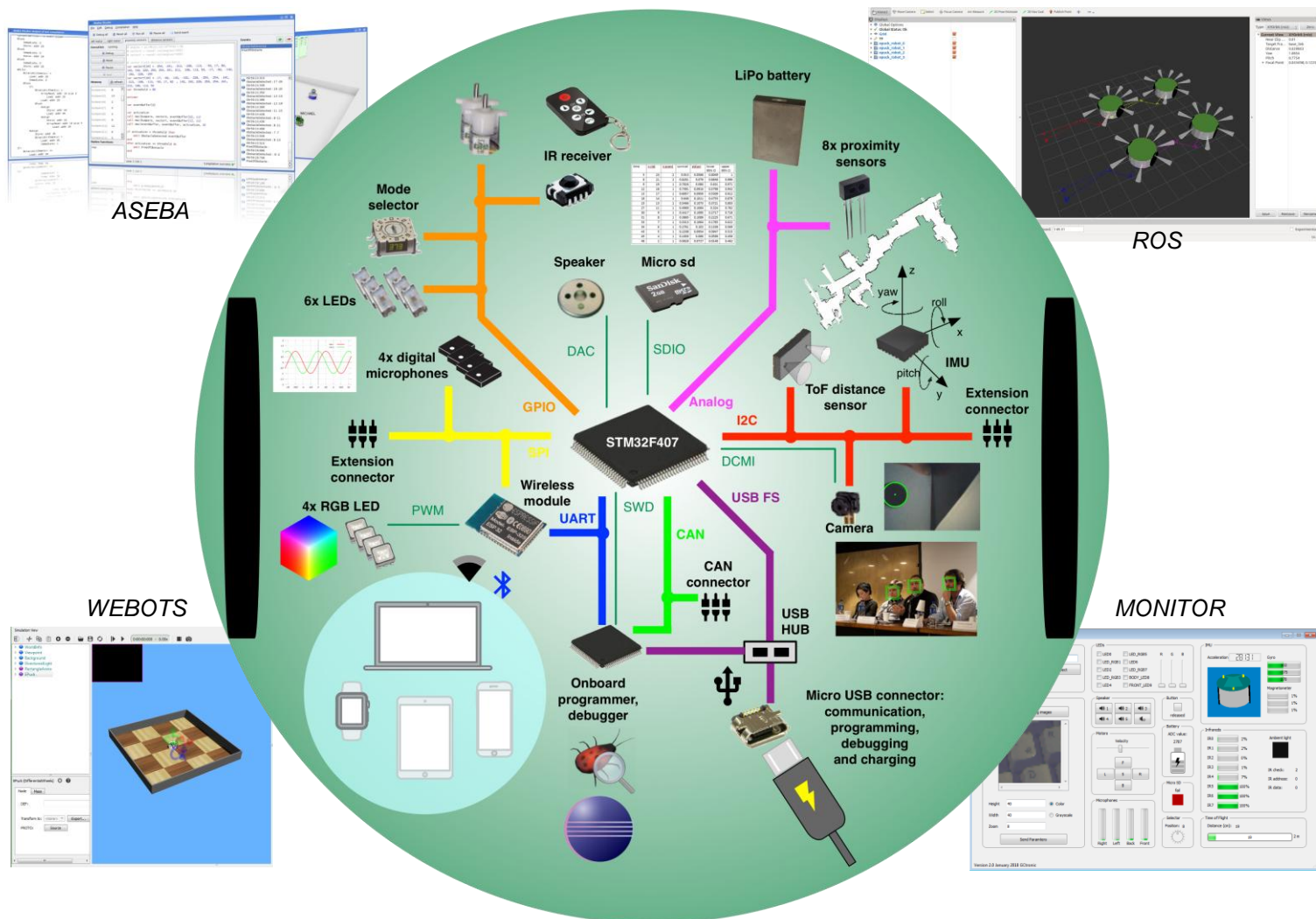
FLEXIBILITY: because of the number of sensors and actuators, the embedded processing power and the extension possibilities, the robot covers a large spectrum of educational activities. Potential educational fields are mobile robotics, real-time programming, embedded systems, signal processing, image or sound feature extraction, human-machine interaction and collective systems, Internet of Things, Android and iOS applications.

ROBUSTNESS AND SIMPLE MAINTENANCE: the robot resists to student use and is simple and cheap to repair.

USER FRIENDLY: e-puck is small and easy to exploit on a table next to a computer providing an optimal working comfort. It can be programmed via USB or WiFi, the rechargeable battery (via USB, no external charger required) has a long autonomy and can also be easily replaced. Debugging can be accomplished easily thanks to the onboard programmer/debugger.

AFFORDABLE: the very competitive price allows using e-puck for education and collective research.

e-puck2 is based on an open hardware concept, where all documents are distributed and submitted to a license allowing everybody to freely use and contribute to the project.



Feature	Technical information	*	Feature	Technical information	*
Processor	32-bit STM32F407 @ 168 MHz (210 DMIPS), DSP and FPU, DMA	+	Mechanical structure	Transparent plastic body supporting PCBs, battery and motors	✓
Memory	RAM: 192 KB; Flash: 1024 KB	+	Size, weight	70 mm diameter, 45 mm, 130 g	✓
Battery, charging	LiPo rechargeable battery, 1800 mAh. USB charging, recharging time about 2.5h.	+	Wheels	Wheels diameter = 41 mm Distance between wheels = 53 mm	✓
Distance sensors	8 infra-red sensors measuring ambient light and proximity of objects up to 6 cm. Front real distance sensor, Time of fight (ToF), up to 2 meter.	+	Motors / speed	2 stepper motors with a 50:1 reduction gear; 20 steps per revolution; ~ 0.13 mm resolution Max speed: 1200 steps/s (about 15.4 cm/s)	✓
IMU	3D accelerometer, 3D gyro, 3D magnetometer	+	Mode selector	16 position rotating switch	✓
Camera	VGA color camera; typical use: 160x120	✓	Audio	4 omni-directional microphones (digital) for sound localization. Speaker capable of playing WAV or tone sounds	+
Storage	Micro SD slot	+	Communication	USB Full-speed, Bluetooth 2.0, BLE, WiFi	+
LEDs	4 red LEDs and 4 RGB LEDs around the robot; green light, 1 strong red LED in front	+	Remote control	Infra-red receiver for standard remote control commands	✓
Programming	Free C compiler and IDE, Webots simulator, onboard debugger (GDB)	+	Extensions	All extension supported	✓

* compatibility with e-puck1



LAUNCHING PRICE: 700 CHF
Quantity discount available

