

CIVIFORM

CODING E ROBOTICA PER L'INNOVAZIONE SOCIALE

Cividale, gennaio-febbraio 2022

ROBOT

ROBOT

Dal ceco **robota**, lavoro pesante.

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Dal ceco **robota**, lavoro pesante.

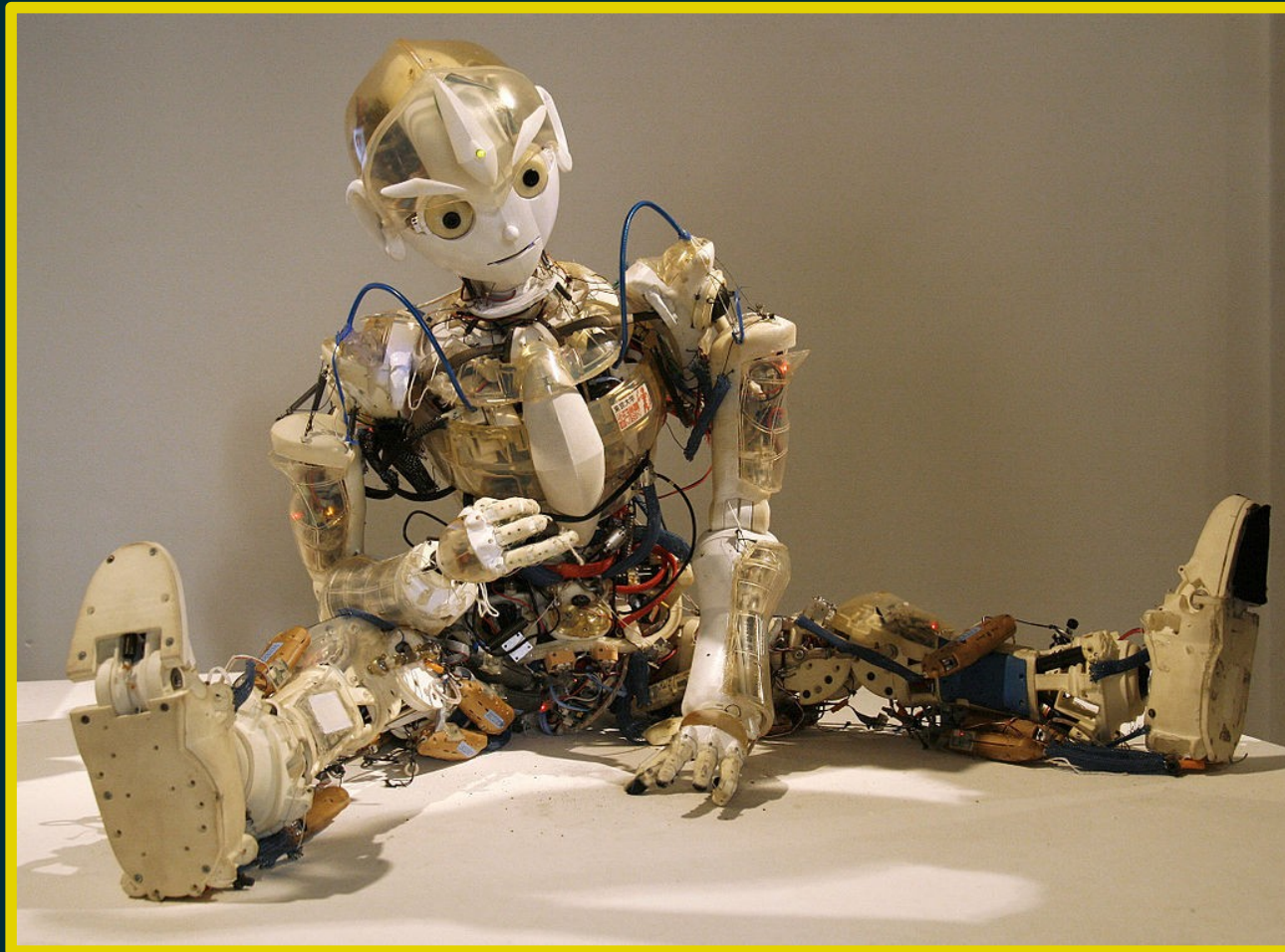
Usato dallo scrittore ceco Karel Čapek in un dramma teatrale del 1920 ad indicare degli umanoidi creati per svolgere i lavori più faticosi...

DEFINIZIONE

Apparato meccanico ed elettronico programmabile, impiegato nell'industria, in sostituzione dell'uomo, per eseguire automaticamente e autonomamente lavorazioni e operazioni ripetitive, o complesse, pesanti e pericolose.

ESEMPI

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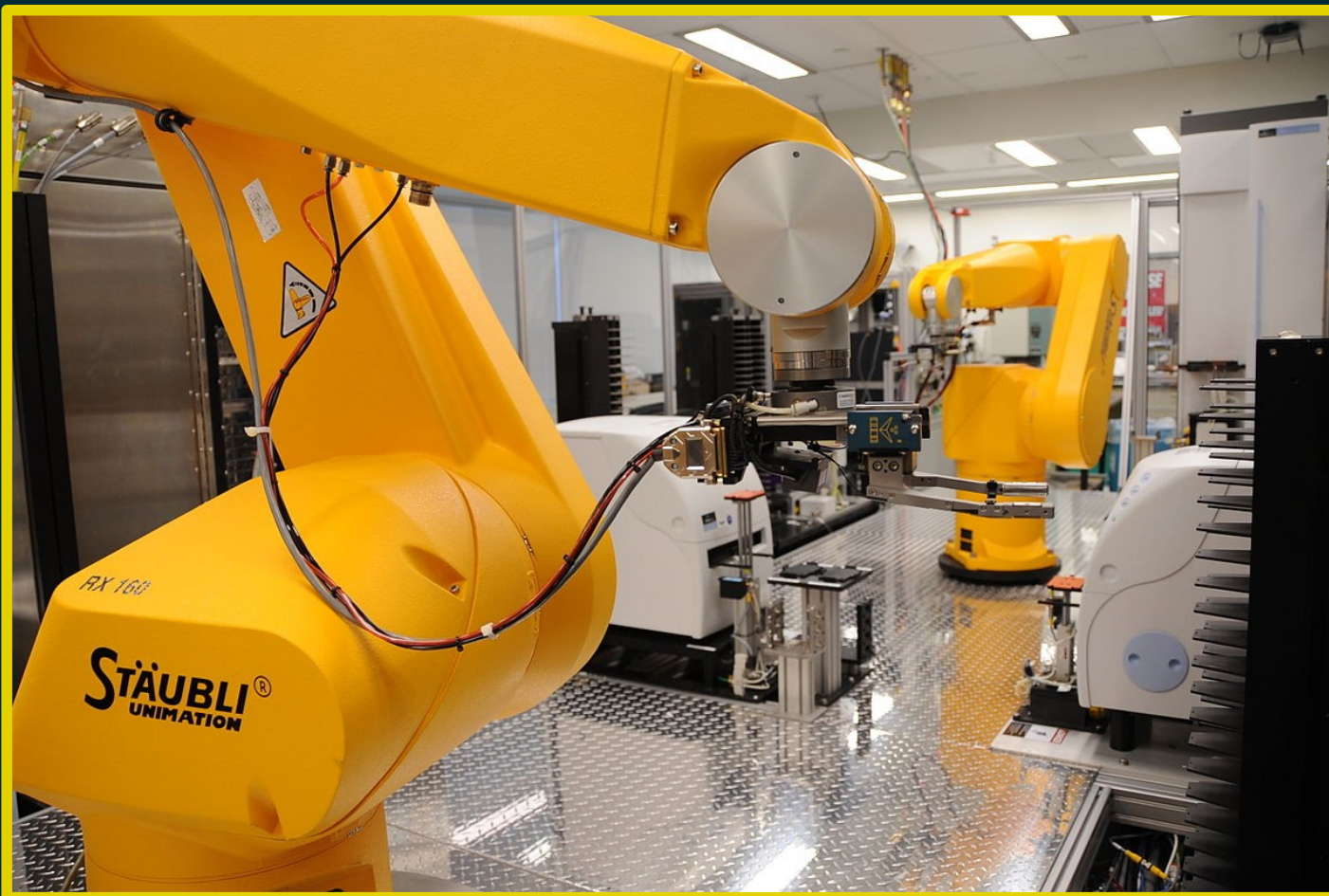


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By Maggie Bartlett, National Human Genome Research Institute - <http://www.genome.gov/dmd/img.cfm?node=Photos/Technology/Research%20laboratory&id=79299>,
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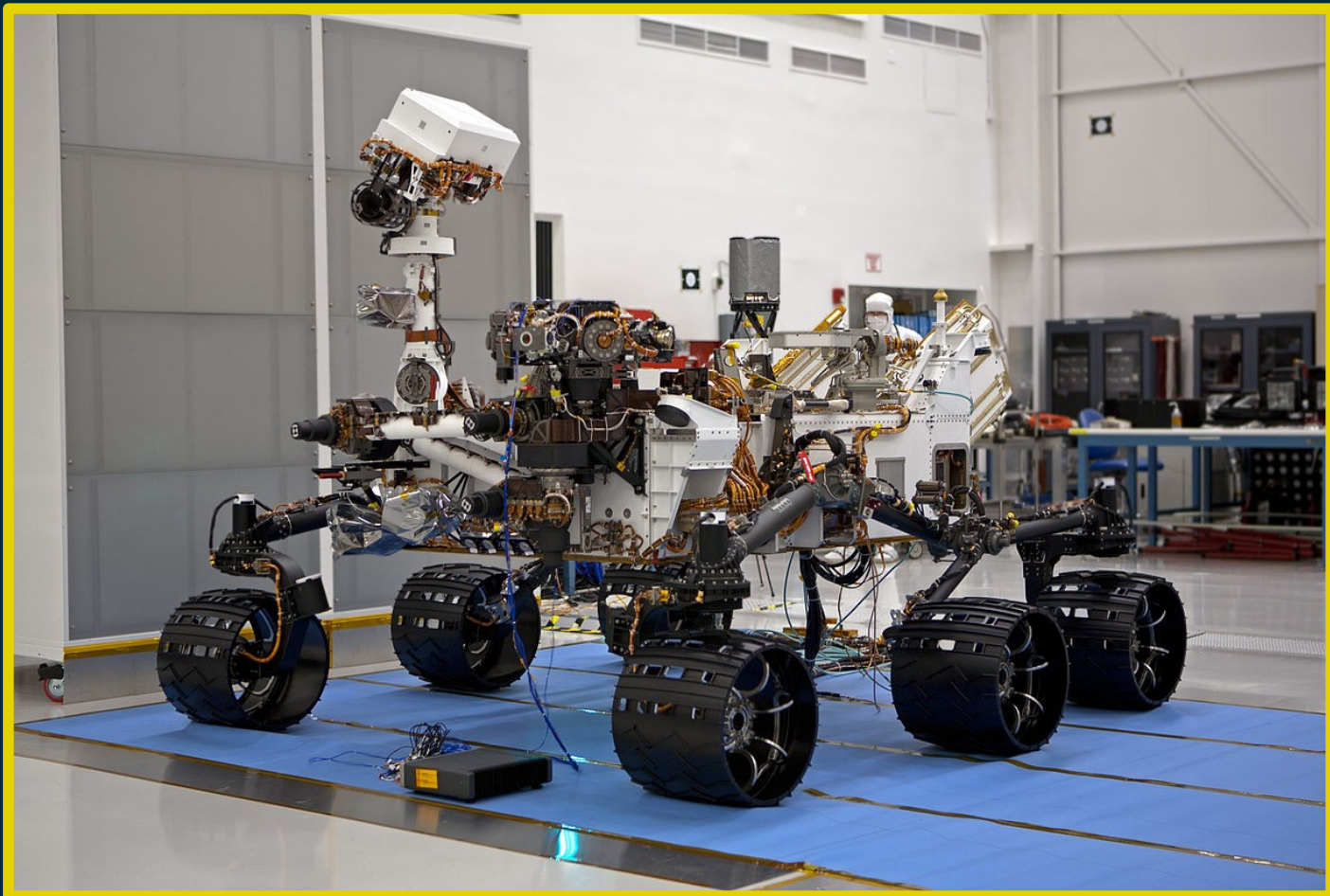
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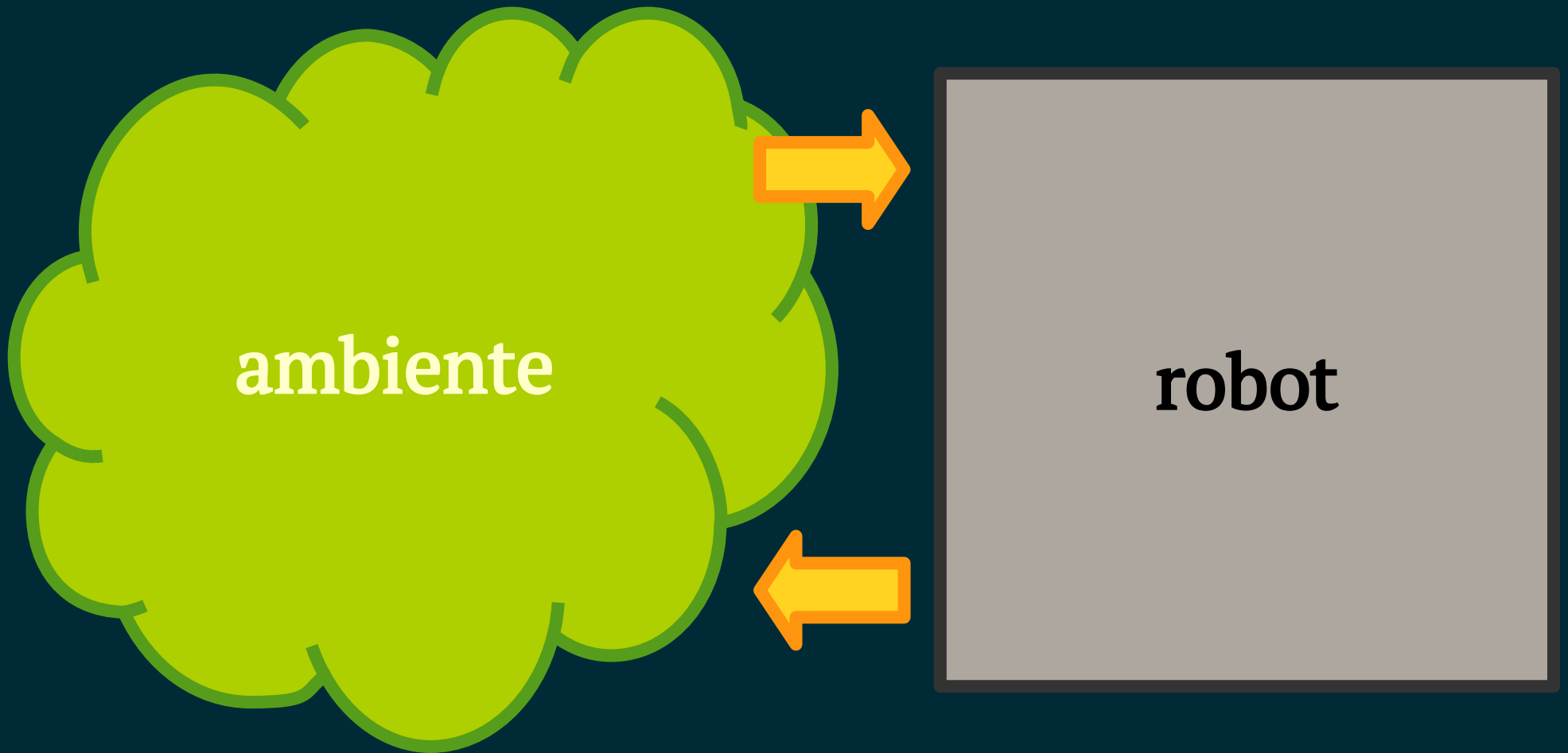
FUNZIONAMENTO



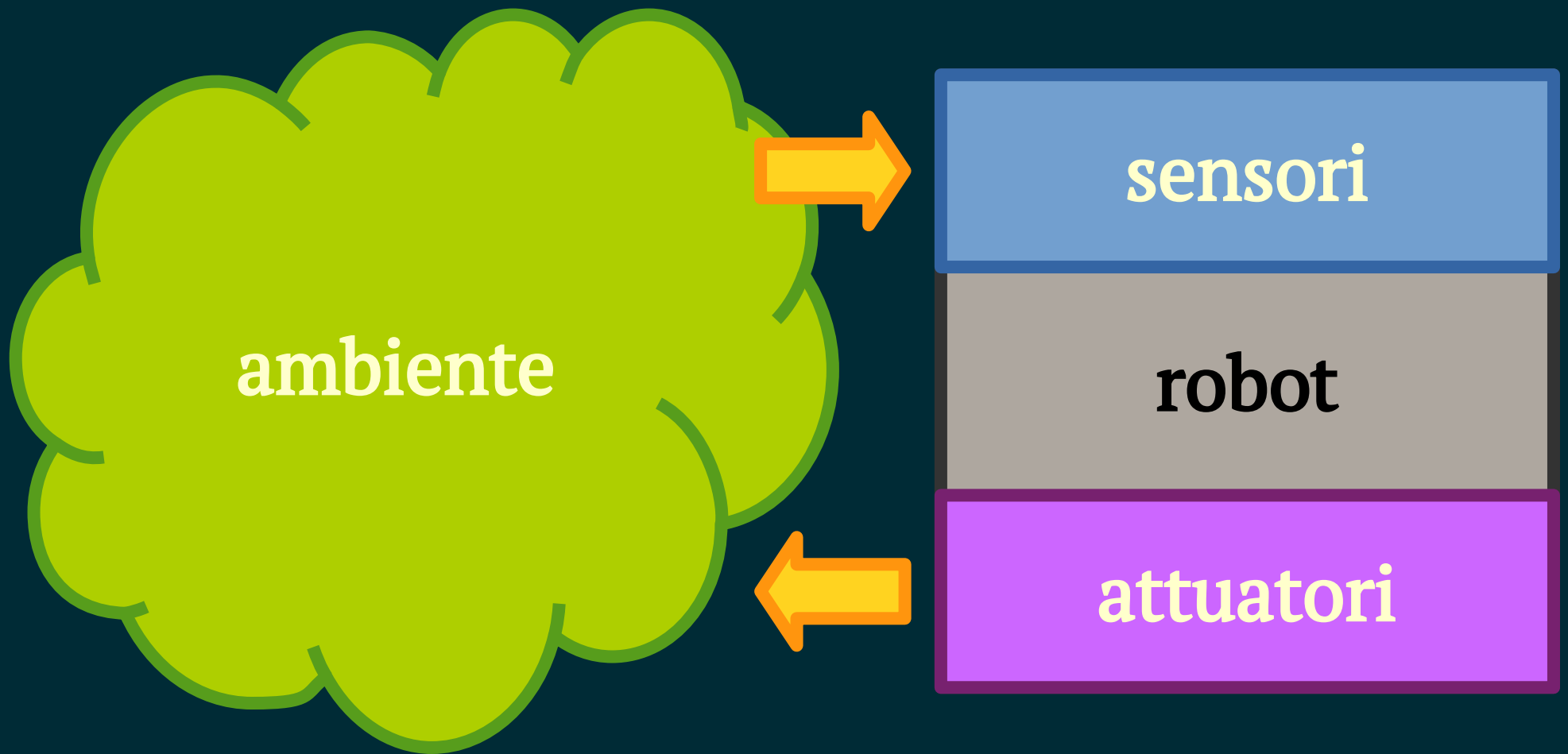
ambiente

robot

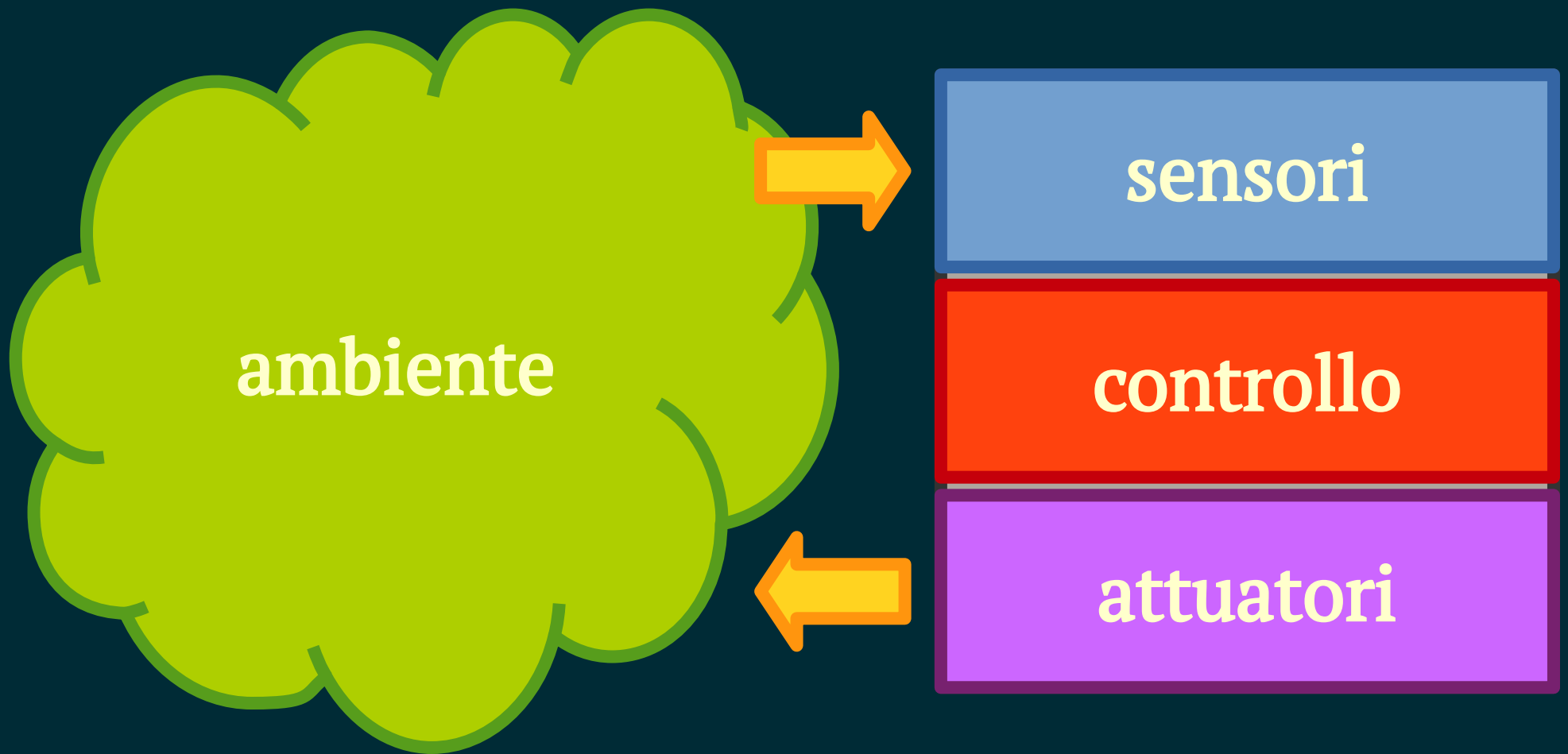
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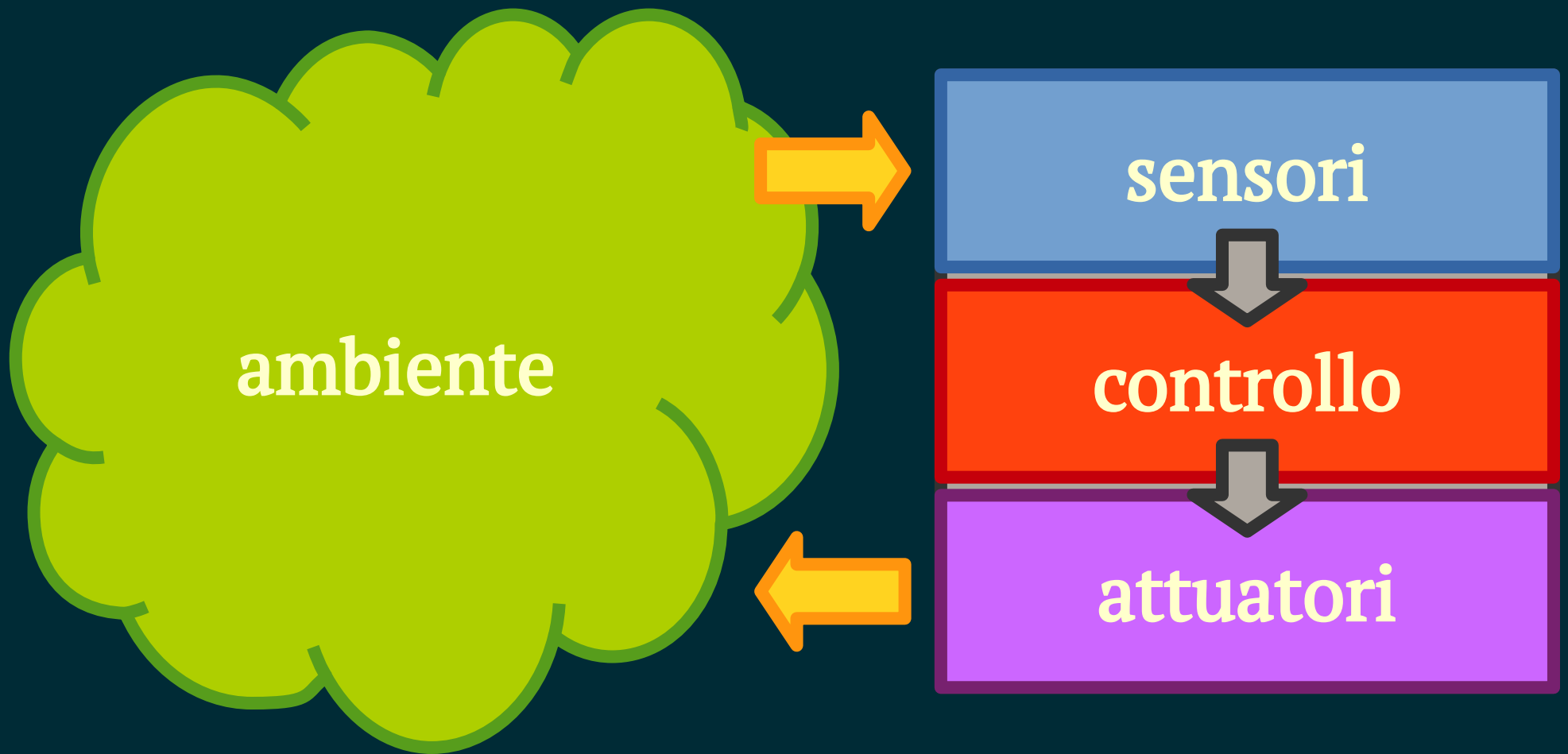
FUNZIONAMENTO



FUNZIONAMENTO



FUNZIONAMENTO



mBot2



mBot2

mBot2 shield

compatible with a variety of external components ,and includes a built-in lithium-ion battery.

Quad RGB sensor

Four sensor probes support color recognition ,as well as basic and advanced line detection programs.

CyberPi

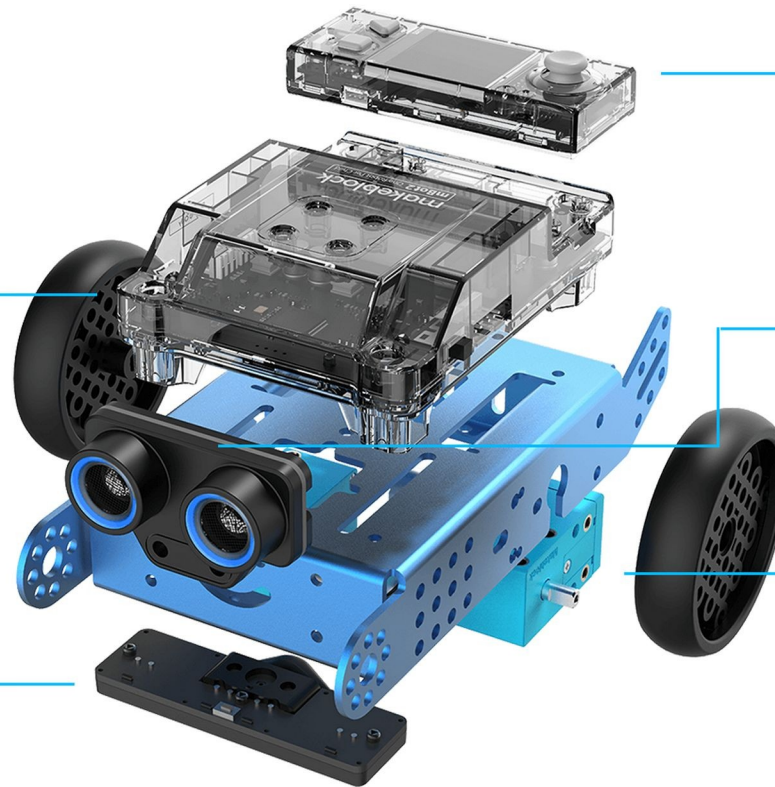
ESP32 microprocessor for wireless communication ,and compatibility with block-based and Python coding.

Ultrasonic Sensor 2

Object detection is accompanied with 8 programmable LEDs for an enhanced interaction.

Encoder Motors

1 degree detection accuracy ,distance traveled, and up to 200 RPM can be precisely controlled.



SENSORI

- joystick
- pulsanti
- microfono
- fotoricettore
- accelerometro/giroscopio
- sensore ultrasonico
- sensore di linea RGB

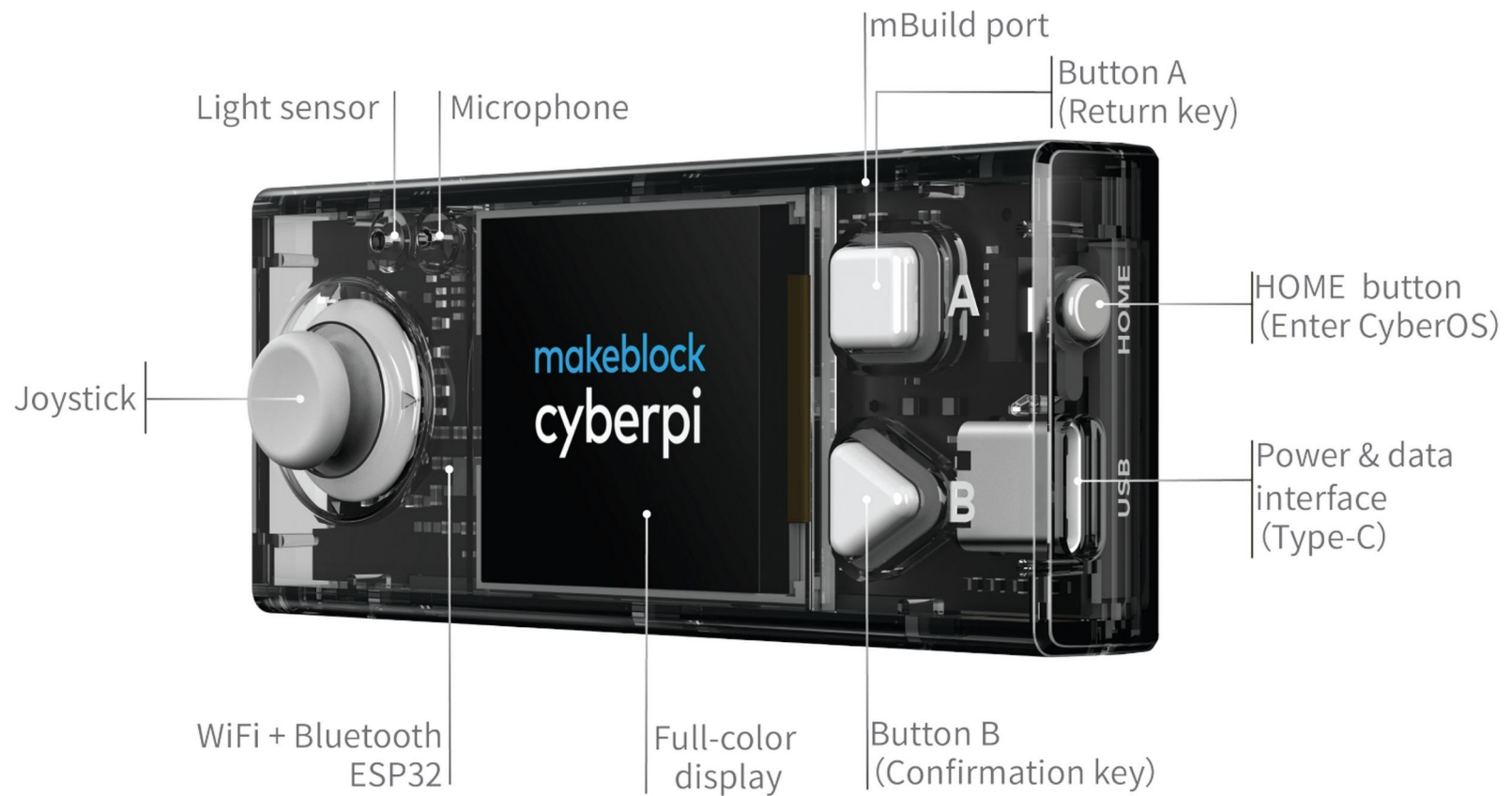
ATTUATORI

- striscia LED
- altoparlante
- display grafico 128x128 a colori
- 2 motori con encoder
- 8 LED blu (montati sul sensore ultrasonico)

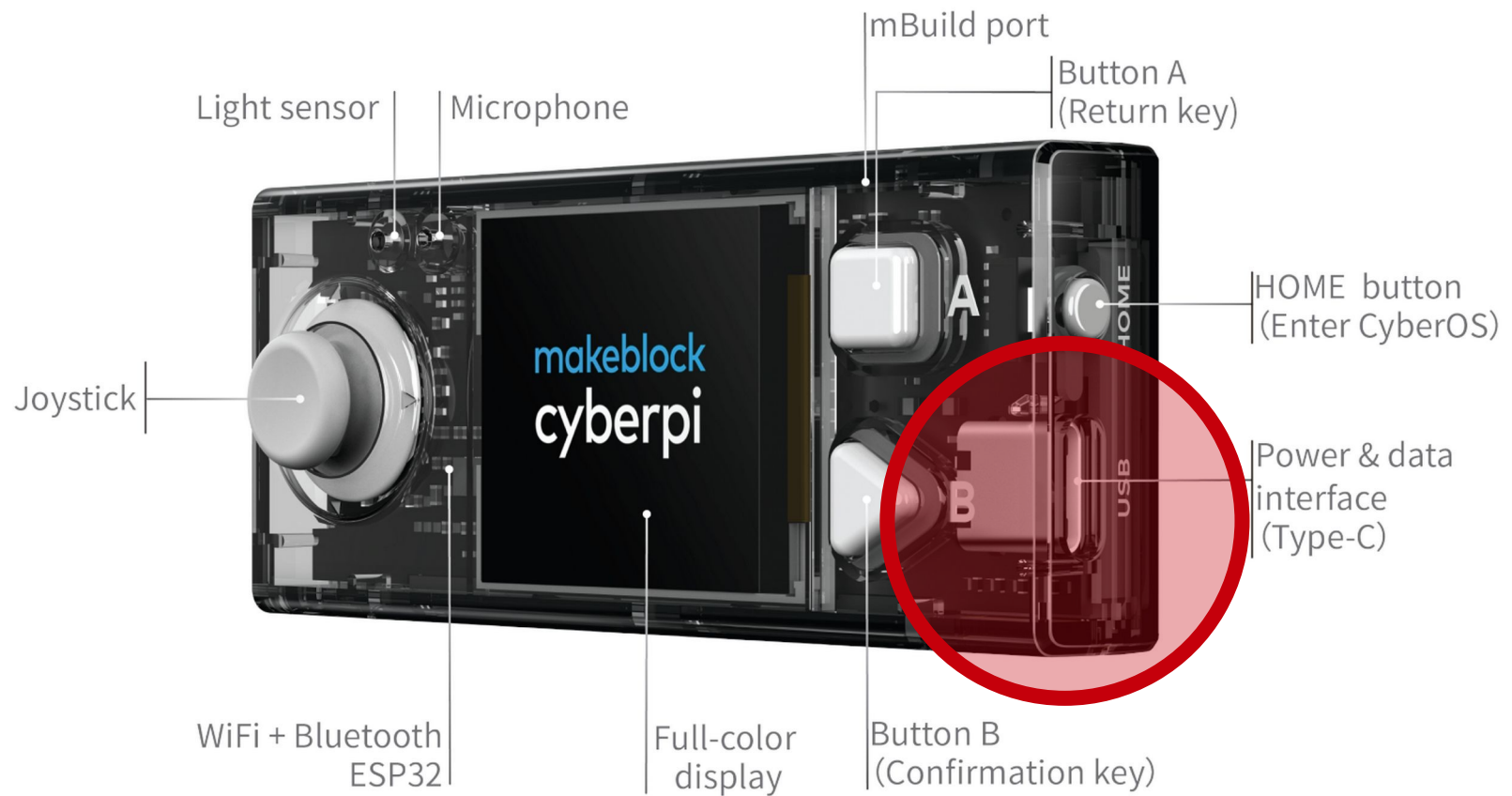
CONTROLLO



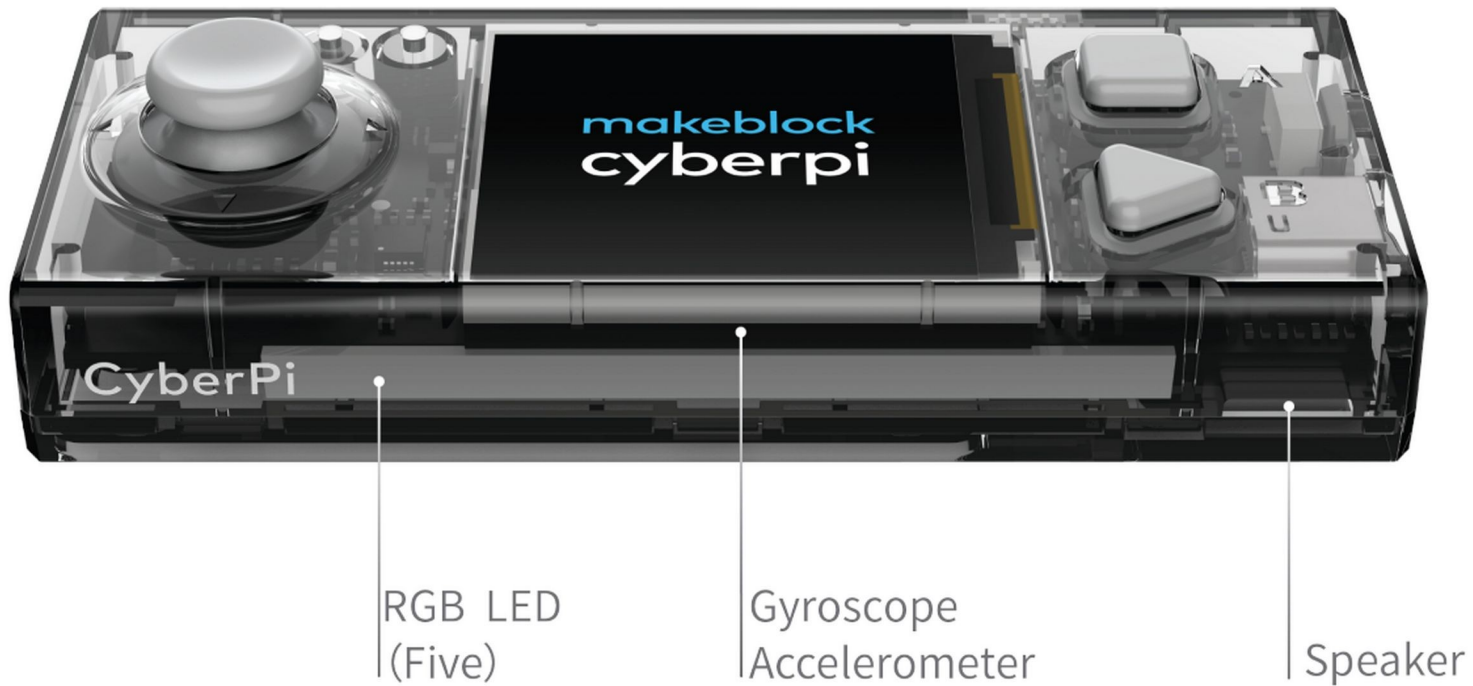
COMPONENTI



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CARATTERISTICHE

Basata su SOC ESP-32

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Basata su SOC ESP-32

- **CPU:** Xtensa® 32-bit LX6 dual-core
- **Clock:** 240MHz
- **ROM:** 448KB
- **RAM:** 520KB
- **Mem. di massa:** 8MB SPI Flash + 8MB PSRAM