Component List

for an open-source robot determined from online retail costs.

Cost	Electronics = 1050	
$100	Cameras	Imx206, 16 MP Sony CMOS 2x... 3.6 MP, 3x
$5	Microphones	3 microphones + SPDIF + manual switch
$200	Position tracking	4x Ultrasound beacons over garden, future price is 100
$200	Computer board	12 W, Octa core, 16GB DDR4, (i.e. Rock5, or 2*RPi5)
$50	SSD	1TB, 4 W
$25	Sim card IO	4G smartphone control, 10 mW. Sentry mode. placing orders.
$150	Other electronics	Wires, Controllers, outboards,
$100	Sensors	pH, NPK, humidity, accelerometers, gyroscopes
$225	Lithium + bms	1 KWh, 20 km range, 1200 recharges
$175	PSU	5V + 12v + 24v ...
	Vehicle = 870	
$150	Front Steering	Rack and Pinion, like on old cars
$125	18" wheels	4x BMX or solid steel hubs, tyres. (calibrated balance weight)
$250	Chassis and body work	Easy access compartments, double waterproof seals
$45	Water pillow	A bladder tank inside chassis compartment (cheap). Filter, pump, tubes
$225	Lockable Suspension	Perhaps just 50 for a 4 bar pivot hinge on a cable
	Arm frame, Tools = 2,175	
$950	Big Telescopic Arm	3 stage, dual belt drive, cascading long reach arm
$600	Automatic Tool Changer	Resembles a blender coupling surface with 2 actuators, 7x
$350	Essential tools	Auger drill, weed-wacker, pH sensor, hedge trimmer, seed dispenser.
$250	Tool docking station	Tool box on a post mount
$25	Brush set	$2 for a broom top
	Motors/Gears = 850	
$75	Steering motor 250W	
$150	4WD motor 500W	7 km/h, precise, high torque gears.
$200	Base bearing and motor	
$250	Shoulder motor	80Nm @ 5 rpm, 200 W, (i.e. Nema 42 stepper 35:1)
$50	Belt drive motor	
$140	Two wrist motors	
	Total cost ~ 5000	Home-assembly = $6000. China price = $7500. ES price = $11000

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