

1 Morphology chart

Functions	1	2	3	4	5
Navigation system	Lines on the floor	GPS location + pallet detection	Preprogrammed map	Sensor fusion (IMU + GPS)	Bluetooth RTLS
Micro controller / processor	Arduino nano	STM32xx	RaspberryPi	E-ESP32	Option 5
Pallet recognition	LoadCells	Hall Effect	buttons	Ultrasonic	photoelectric
Coding standard	Option 1	Option 2	Option 3	Option 4	Option 5
Mast Stage	Simplex	Duplex	Triplex	Quadriplex	-
Lift solution	Linear Actuator	L.A + RollerChain	Threaded Rod + linear bearings	String&Bearing	Rack&Pineon
Lifting sensing	End stops Top&Down	Encoder	Stepper Motors	LoadCell	-
Motors	Stepper on Mast	DC-Motors Movement	-	-	-
Sensors Fork	LoadCell	-	-	-	-
Sensors Body	Ultrasonic Distance HC-SR04	Infrared Sensors	LiDAR	Optical Sensors	-
Body design Elements	LCD	Tank tracks	Perry the Forklift	Googly Eyes	-

* Green cells indicates chosen option.