

TUSKROBOTS

TUSK ES-S

SMART, SAFE
& READY TO DEPLOY



TUSK ES-S

Tusk ES-S is a standalone intelligent **AMR pallet transport robot designed for rapid deployment and flexible intralogistics automation.** With payloads up to 1,000 kg and speeds up to 2.0 m/s, it combines dual navigation (SLAM + DM-code) with 360° obstacle detection and intuitive 10-inch HMI control for safe, straightforward operation.

Go live in as little as one hour with minimal setup, execute transport/pick/place tasks in one click, and scale from standalone mode to VDA 5050 integration and cluster scheduling as your automation grows. A long-life LFP battery supports **up to 8 hours runtime with fast charging in up to 2 hours** for reliable day-to-day performance.

Multi-dimensional protection

- Safety bumper
- Emergency stop button
- Status indicator lights
- Sound alarm
- Real-time monitoring of AGV operation status
- Forward - facing stereo camera
- Stereoscopic space protection

Human-machine interface

- 10-inch HMI touchscreen for intuitive control

Hybrid navigation

- Hybrid switching between DM Code and SLAM navigation

Lifting mechanism

- Invisible fork system
- Direct pallet pickup
- Body-backed operation

360° safety

- 4 laser configuration
- 360° laser protection



Lifting mechanism

INVISIBLE FORK ARM
LIFTING HEIGHT UP TO 330 MM

Manipulation

FROM THE GROUND

VDA 5050

SEAMLESS FLEET INTEGRATION

Max speed

2.0 M/S

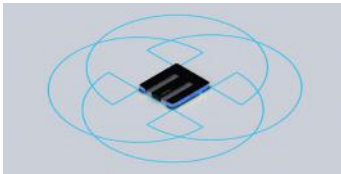
Rated load

1,000 KG

Safety

360°, OBSTACLE AVOIDANCE DETECTION





Safety



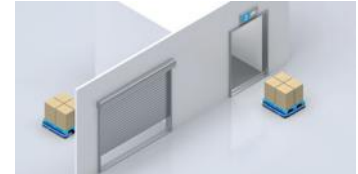
Ground roller



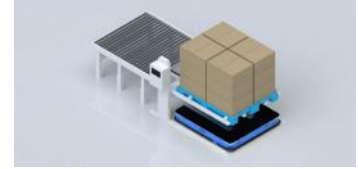
Charging



Dense storage



Elevator



Lift conveyor line

Designed for diverse pallet formats



Ground Adaptability

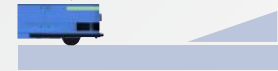
SURFACE ROUGHNESS

Variation $\leq 5\text{mm}$
within 1m^2



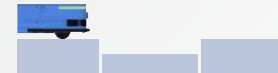
SLOPE

$\alpha \leq 4^\circ$



GAP

$L \leq 40\text{mm}$



STEP

$H \leq 15\text{mm}$ within a range
of 100mm length



HONORS



red dot

Red Dot Design Award



2023 RBR50 Robotics Innovation Awards



The iF Design Award

TUSK ES-S

SPECIFICATION

Type	Straddle low lift
Navigation	Hybrid navigation (switching between DM Code and SLAM Navigation), obstacle avoidance detection
Direction of drive	Forward, backward, on the spot rotation
Minimal turning radius (m)	1.9
Max speed (m/s)	2.0
Load capacity (kg)	1,000
Lift	Electric
Max lift (mm)	330
Dimensions (L, W, H in mm)	1,394x1,102x170
Forks	Welded
Pallet length	$\leq 1,400$
Pallet width (W1 and W2 in mm)	$W1 \leq 160, 600 \leq W2 \leq 900$
Manipulation	From the ground
Batteries	LFP (lithium iron phosphate)
Charging	Automatic - contact
Control	10-inch HMI touchscreen, URC (Universal remote control)
Safety scanners	Double Front & Rear laser sensors, 360° Obstacle avoidance

