Going the extra aisle. Always.

# SMAVOO All-in-One AGV Solution

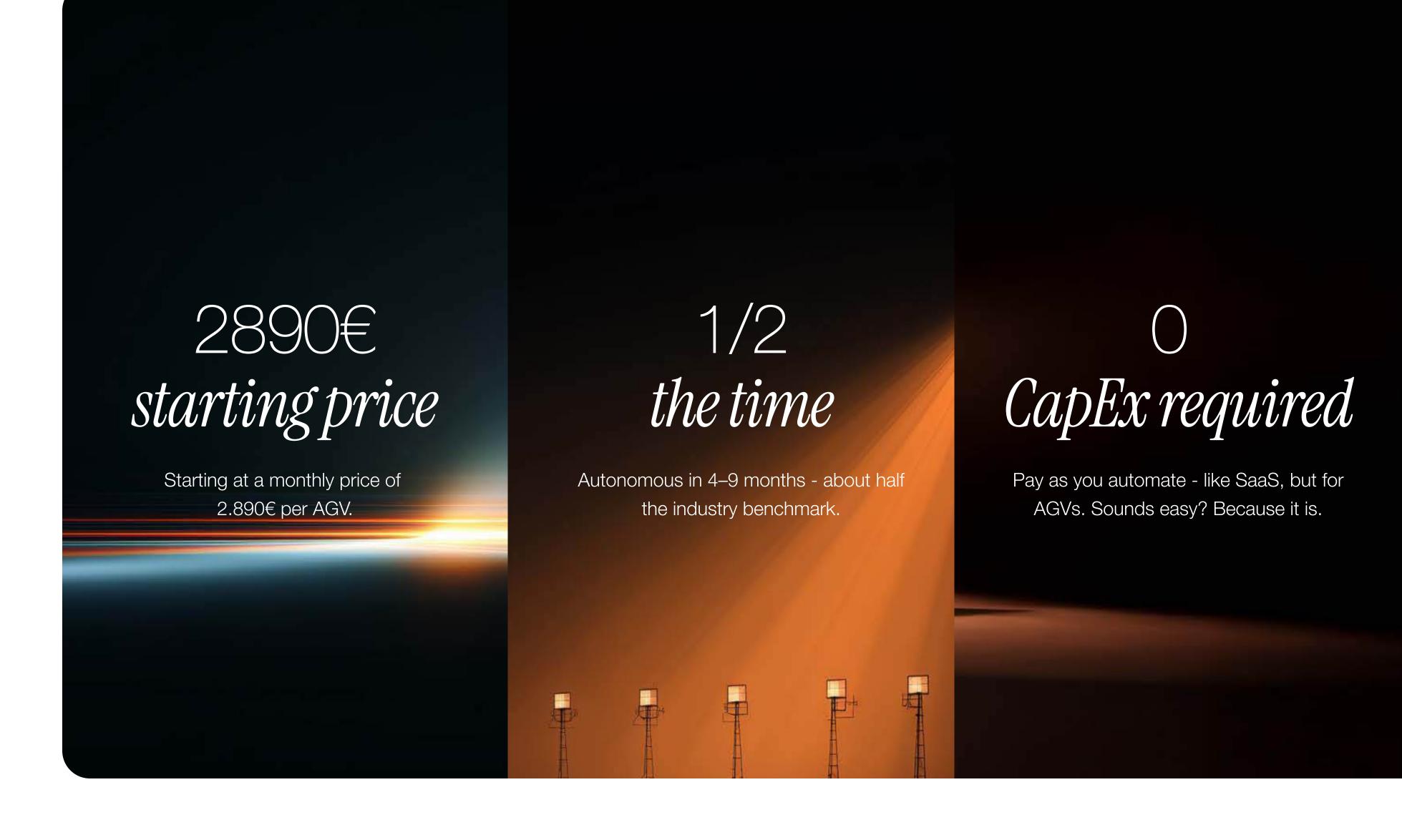




# 4 Worlds 1Language

AGVs, Hardware, Software, Support:
SMAVOO redefines automated logistics —
with modular AGVs and smart sensors that
adapt to your environment. Real-time
orchestration ensures seamless movement,
full integration with your WMS/MES, and
effortless scalability.

Modular by design, simple by default, scalable by nature.









DAIMLER TRUCK













SCHAEFFLER





#### SIMAWOO All-in-One-Solution



## Smart Sensors: 10 Included

Equipped with ten intelligent sensors, every system captures key performance, safety, and maintenance data in real time. Stay informed, prevent downtime, and make data-driven decisions with ease.

#### Autonomously Guided Vehicles

Our AGVs move your materials safely and precisely - fully autonomous and highly adaptable. With smart navigation and obstacle detection, they streamline internal logistics, reduce manual effort, and keep your processes running smoothly.

# SMAVOO One Plattform

Gain full visibility and control with SMAVOO ONE. The platform connects all vehicles, sensors, and data in one intuitive dashboard, giving you real-time insights to optimize workflows and boost efficiency across your operations.

# Expert Support: Up to 24/7

Our experts are ready to assist you - up to 24/7. Whether it's setup, optimization, or troubleshooting, you can rely on fast, personal, and solution-oriented support whenever you need it.





Autonomous forklifts lift 500-3,000 kg pallets up to 1,300 mm in ultra-narrow aisles. Laser-guided, they move precisely in any direction and maximize vertical storage.

Compact powerhouse with vertical efficiency: The KLT-AGV stacks up to 6 layers, autonomously handling 30 kg boxes via SLAM + QR code navigation for high-density storage.

Precision meets heavy lifting: Lurking AGVs slide under racks to deliver 500-3,000 kg goods. Customizable with arms, conveyors, or rollers, they move in any direction and stop within ±10 mm.

Going the extra aisle. Always.

01 | Lurking AGV





# AGV Technical Specifications

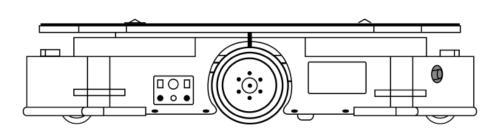
Engineered for precision and durability, the Lurking AGV combines high load capacity with accurate QR code navigation and smooth motion control. It moves forward, backward, or rotates in place with ease, lifting up to 1500 kg and completing rotations in as little as 5 seconds for efficient, reliable performance in demanding environments.

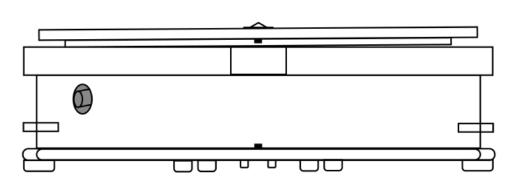


| MODEL                           | SMAVOO Lurking AGV   |  |
|---------------------------------|--|--|
| BASIC FUNCTION                  | Backpack lifting, Rotation in place, Vehicle rotates but cargo does not, Vehicle and cargo rotate simultaneously |  |
| WEIGHT                          | 308 kg   |  |
| GUIDANCE / NAVIGATION MODE      | QR Code  |  |
| RUNNING DIRECTION               | Forward / Rotation in place  |  |
| DRIVING MODE                    | Chassis differential   |  |
| OPERATING SPEED                 | ≤ 0.85 m/s (Full load), ≤ 1 m/s (No load)  |  |
| ACCELERATION                    | $\leq 0.5 \text{ m/s}^2$ (Full load)   |  |
| ADDRESS READING METHOD          | $\leq 0.5 \text{ m/s}^2 \text{ (Full load)}$   |  |
| LOADING CAPACITY                | 1500 kg  |  |
| MINIMUM TURNING RADIUS          | Rotate in place  |  |
| STRAIGHT-LINE GUIDANCE ACCURACY | ± 10 mm  |  |
| STOPPING ACCURACY               | ± 10 mm  |  |
| ROTATION TIME                   | 5 s (90°), 8 s (180°, full load)   |  |
| LIFTING STROKE                  | ≤ 60 mm  |  |

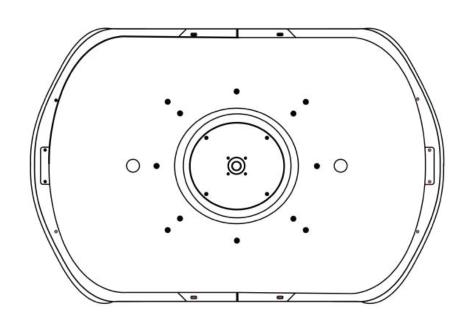


# AGV Technical Specifications





CHARGING MODE



#### **SMAVOO Lurking AGV MODEL** 10 mm/s MAXIMUM LIFTING SPEED $1190 \times 860 \times 260$ mm (customizable) SIZE (L×W×H) MOTOR TYPE Servo motor MOTOR OUTPUT POWER 1000 W × 2 CONTROL METHOD Controlled by IPC Φ 200 mm, Polyurethane DRIVING WHEEL Direct drive DRIVING MODE BATTERY DC 48 V / 45 Ah (Lithium iron)

Online charging (bottom charge, 48 V one piece)



| FUNCTIONS | MODEL | SMAVOO Lurking AGV |
|-----------|-------|--------------------|
|-----------|-------|--------------------|

| OBSTACLE DETECTION           | 0 – 4 m sensing distance                          |
|------------------------------|---|
| BUMPER                       | Yes   |
| OVERLOAD PROTECTION          | Yes   |
| SIGNAL LAMP                  | LED three colors (red / yellow / green, flashing) |
| MUSIC SPEAKER                | Yes   |
| ELECTRICITY METER            | Percentage display on scheduling system           |
| DESIGNATED STATION           | Up to 99,999,999 QR code sites                    |
| INTERSECTION TRAFFIC CONTROL | Dispatching system control                        |
| ALARM                        | Sound-light alarm                                 |
| EMERGENCY STOPS              | 2 × (red switches, front and back)                |
| OPERATING BUTTON             | External wireless keyboard control                |
| HUMAN-MACHINE INTERFACE      | 6.5" touch screen                                 |
| DRIVING ASSEMBLY/UNIT UPDATE | No  |



Store it, move it, relocate it - all autonomously.

## 02/KLT AGV



# AGV Technical Specifications

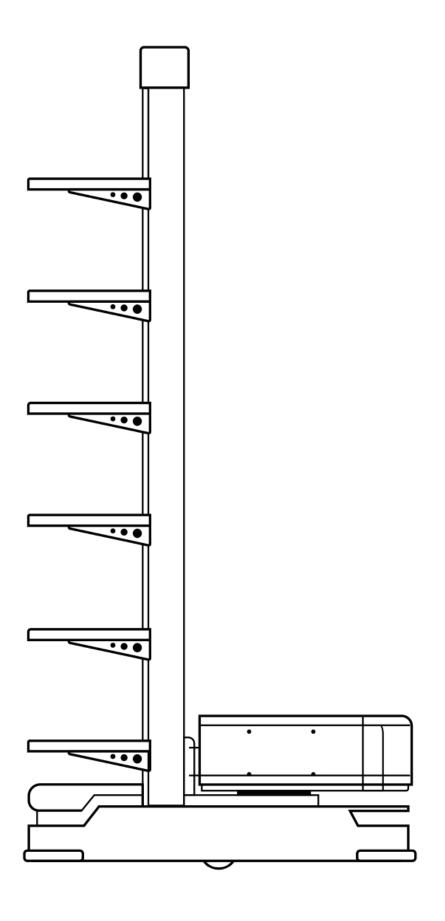
Designed for efficient warehouse automation, our compact KLT-AGV seamlessly stacks and transports plastic boxes across multiple layers. Combining SLAM and QR code navigation, it ensures precise handling in dynamic indoor environments — managing up to 180 kg payloads with smooth, fully automated operation.



| MODEL                           | SMAVOO KLT-AGV   |  |
|---------------------------------|--|--|
| BASIC FUNCTION                  | Goods-to-People Robot. Can move forward, backward, and turn in place. Designed for indoor stacking and transport of plastic frame materials. |  |
| WEIGHT                          | 600 kg   |  |
| GUIDANCE / NAVIGATION MODE      | Natural navigation + QR Code navigation  |  |
| RUNNING DIRECTION               | Forward / Backward / Rotation in place   |  |
| DRIVING MODE                    | Differential wheels, bi-directional driving  |  |
| OPERATING SPEED                 | ≤ 1.5 m/s  |  |
| ADDRESS READING METHOD          | QR Code  |  |
| LOADING CAPACITY                | 180 kg (max payload)   |  |
| MINIMUM TURNING RADIUS          | Rotate in place (mechanical rotation diameter 1750 mm)   |  |
| STRAIGHT-LINE GUIDANCE ACCURACY | ± 3 mm / 2.25 m² ground levelness  |  |
| STOPPING ACCURACY               | ± 10 mm  |  |
| LIFTING STROKE                  | Height range 1200 – 5620 mm  |  |



## AGV Technical Specifications



| MODEL          | SMAVOO KLT-AGV   |  |
|----------------|--|--|
| SIZE (L×W×H)   | 1750 × 1020 × 3595 mm (Height Range 1200 – 5620 mm, customizable)    |  |
| MOTOR TYPE     | Servo motor  |  |
| CONTROL METHOD | Automatic online charging system (controlled by internal controller) |  |
| DRIVING WHEEL  | Differential wheels  |  |
| DRIVING MODE   | Direct bi-directional drive  |  |
| BATTERY        | Lithium battery system   |  |
| CHARGING MODE  | Automatic online charging (bottom charge, no human intervention)     |  |



| FUNCTIONS | MODEL              | SMAVOO KLT-AGV                   |
|-----------|--------------------|----------------------------------|
|           | OBSTACLE DETECTION | Yes                              |
|           | BUMPER             | Yes                              |
|           | SIGNAL LAMP        | Sound and light alarm            |
|           | ELECTRICITY METER  | Battery status display in system |
|           | ALARM              | Sound-light alarm                |
|           | EMERGENCY STOPS    | Emergency stop button            |
|           |                    |                                  |

HUMAN-MACHINE INTERFACE



Wi-Fi wireless communication



# AGV Technical Specifications

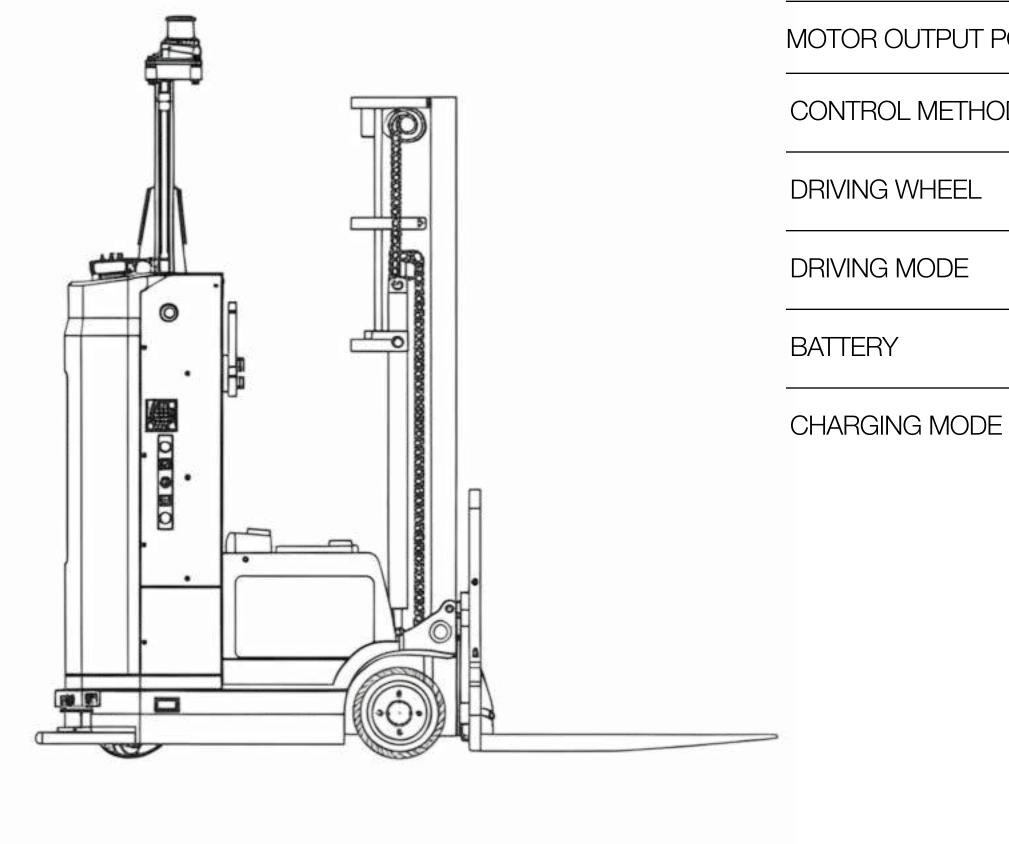
Built for high-performance logistics, our laser-guided Forklift AGV delivers precise pallet stacking and transport even in ultra-narrow aisles. Equipped with a powerful lithium battery and advanced safety sensors, it handles payloads of up to 1,500 kg with accuracy, stability, and intelligent autonomous control.



| MODEL                           | SMAVOO Forklift AGV  |
|---------------------------------|--|
| BASIC FUNCTION                  | Laser-guided ultra-narrow aisle pallet stacker. Designed for automated handling and stacking operations in warehousing and home-appliance sectors. |
| WEIGHT                          | 768 kg   |
| GUIDANCE / NAVIGATION MODE      | R9 Laser Reflector System (Laser Navigation)   |
| RUNNING DIRECTION               | Forward / Backward / Turning in place  |
| DRIVING MODE                    | Differential drive   |
| OPERATING SPEED                 | Forward: ≤ 1.2 m/s (empty), ≤ 1.0 m/s (full load)  |
| ACCELERATION                    | 0.4 m/s <sup>2</sup>   |
| ADDRESS READING METHOD          | Laser reflector system   |
| LOADING CAPACITY                | 1500 kg  |
| MINIMUM TURNING RADIUS          | 2400 mm  |
| STRAIGHT-LINE GUIDANCE ACCURACY | ± 10 mm  |
| STOPPING ACCURACY               | ± 10 mm  |
| LIFTING STROKE                  | Max lifting height 1300 mm   |



# AGV Technical Specifications



| MODEL                 | SMAVOO Forklift AGV                                |  |
|-----------------------|--|--|
| MAXIMUM LIFTING SPEED | Full load: 80 mm/s   Empty: 100 mm/s               |  |
| SIZE (L×W×H)          | 1721 × 1089 × 1982 mm (with fork, customizable)    |  |
| MOTOR TYPE            | Moving motor: AC 1.7 kW   Lifting motor: DC 2.2 kW |  |
| MOTOR OUTPUT POWER    | Total ≈ 3.9 kW                                     |  |
| CONTROL METHOD        | Controlled by onboard system (IPC equivalent)      |  |
| DRIVING WHEEL         | Differential drive system                          |  |
| DRIVING MODE          | Direct drive                                       |  |
| BATTERY               | 24 V / 100 Ah Lithium battery                      |  |

Online charging (automatic in-line charging)

Charging time < 2 h | Endurance ≈ 5 h



| FUNCTIONS | MODEL              | SMAVOO Forklift AGV   |
|-----------|--------------------|---|
|           | OBSTACLE DETECTION | $2 \times forward$ -looking laser sensors, $1 \times rear$ laser sensor |
|           | BUMPER             | Yes   |
|           | SIGNAL LAMP        | Sound and light alarm   |
|           | ELECTRICITY METER  | Battery status display in system  |
|           | ALARM              | Sound-light alarm   |
|           | EMERGENCY STOPS    | Emergency stop button   |
|           |                    |   |

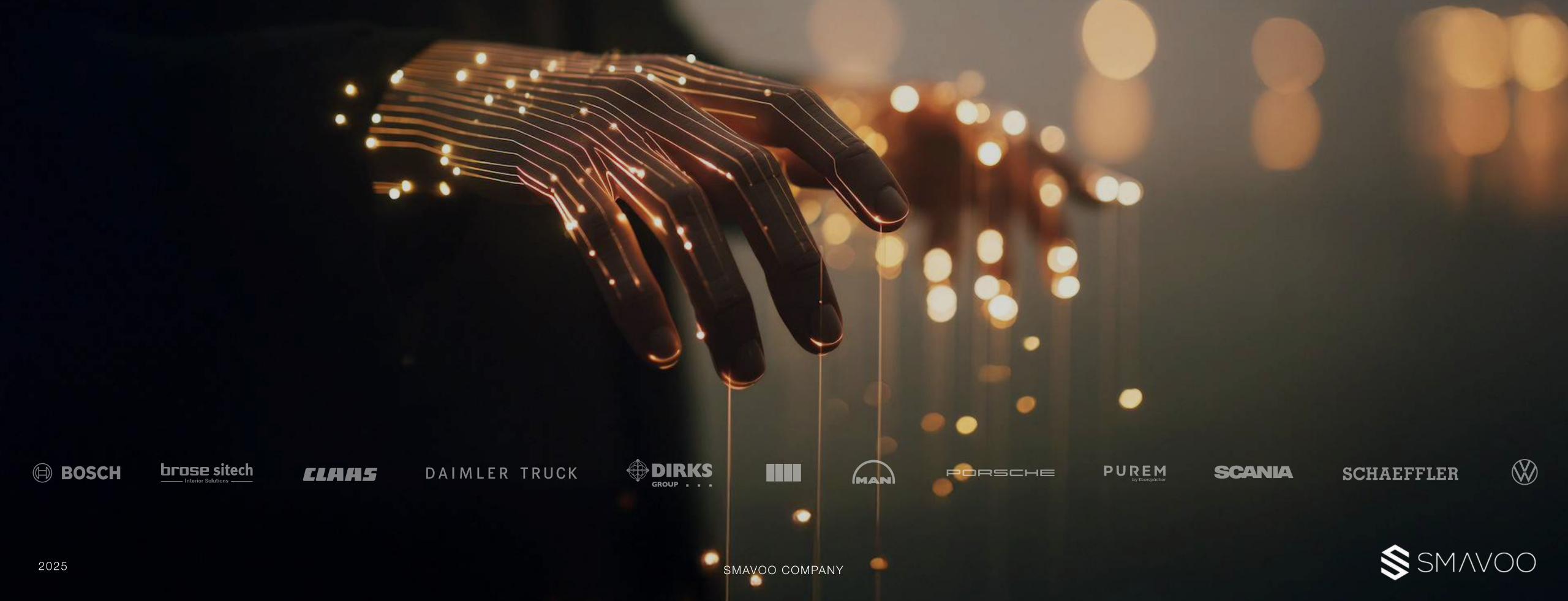
HUMAN-MACHINE INTERFACE



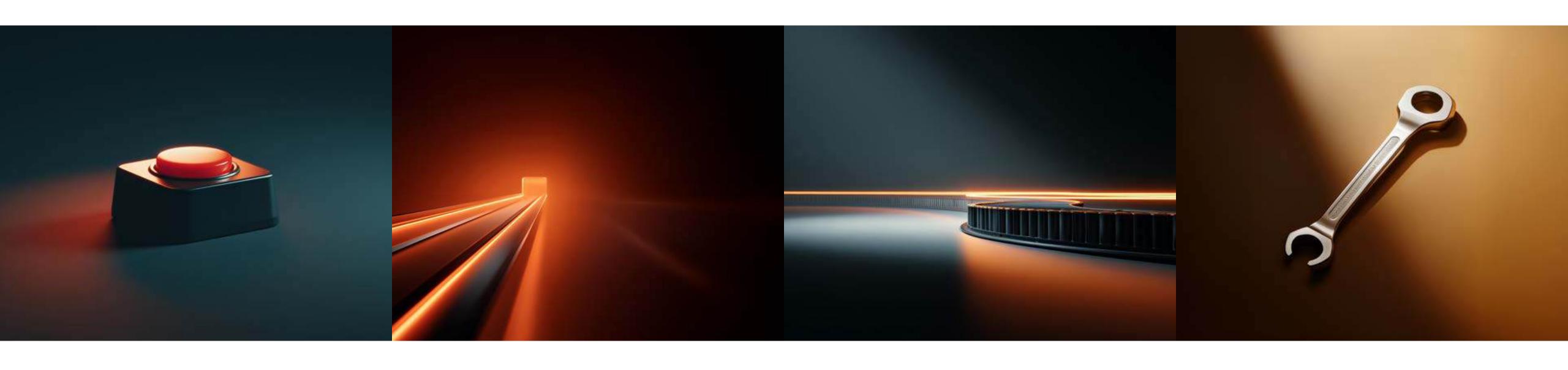
Wireless LAN (2.4 GHz communication)

### SMAVOO - The Future of Logistics Is Connected

Rethink logistics as a seamless, connected experience. We empower industries with modular, integrative technologies that connect every part of the intralogistics process — without proprietary limits.



### 4 Phase AGV Roadmap



#### Free Expert Call

In 30 minutes, we'll know if AGVs fit your setup and what the next step looks like. No pressure, no obligations.

#### Planning & Proposal

Full Site Assessment + Binding Quote (€9,950 – Limited Offer). One visit, complete roadmap, zero surprises.

#### Deployment & Rollout

We deliver, install, integrate, train, and optimize, then hand you a system that actually runs seamlessly.

#### Operation & Service

Stay optimized with continuous service and performance monitoring. Our expert support keeps your system efficient, reliable, and future-ready.



### SMAVOO ONE. Ecosystem

A connected system that moves as one



#### Lightcube

LED cube for visual process feedback and AGV call signals.

#### Lighttube

Smart LED indicator for AGV routes and process visualization.

#### **Distance**

Sensor for automatic distance and filling level detection.

#### AGV/AMR Button

Start AGVs, request restock, or confirm deliveries - all with one smart-buzzer press.

#### Order Cord

Pull and call the AGV, easy and robust.

#### *Options*

Load sensors, light beacons, or proximity triggers.







# From first idea to full integration— we're here to make it seamless.

SMAVOO combines modular technology, wireless connectivity, and intuitive design to create efficient, connected intralogistics systems.

Get in touch to explore how our AGV and IoT solutions can fit your setup and accelerate your automation journey:

agv@smavoo.com Tel. +49 511 5156 1408





### Frequently Asked Questions

(1) What happens if we decide AGVs aren't working for us?

First 24 months: You're committed to the monthly subscription. This gives the system time to integrate and optimize (typical ROI timeline is 8-12 months).

After month 24: Month-to-month cancelation with 30-day notice.

During planning phase: If our assessment shows AGVs aren't viable for your operation, we'll tell you before you commit. You only pay for the planning phase (€9,950)

(2) Can I also buy the AGVs?

Simply send us a request via eMail. We offer different options based on your needs & fleet size.

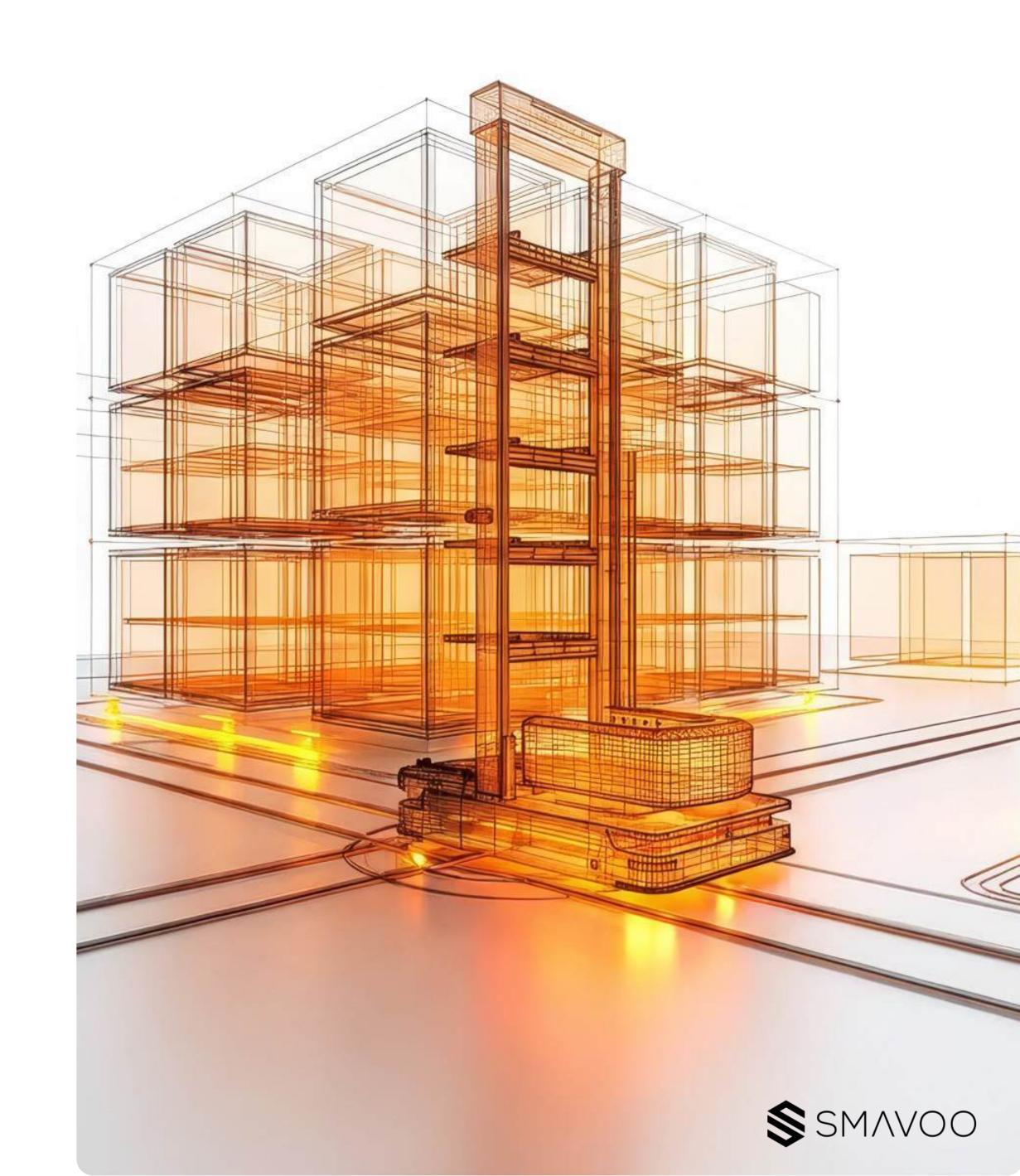


#### (3) What if our facility has complex layouts, multiple floors, or outdoor areas?

That's exactly what our €9,950 planning phase addresses. Our engineers assess: Narrow aisles, slopes, temperature zones Integration points with existing automation Multi-level operations We've deployed in multi-story distribution centers. If your facility presents unique challenges, we'll identify them in planning and design the solution accordingly. No surprises.

#### 4 Do you support our ERP/WMS system?

We have multiple connectors already and have connected to different systems. Let us check if your ERP / WMS is already included. If not don't worry: Integration timeline: 2-4 weeks typically (happens during Phase 2 implementation). If you have a custom/legacy system, we assess during the planning phase and provide integration roadmap upfront.





#### (5) What about maintenance and parts? Are they really included?

There are different plans. Our premium plan includes them: - All scheduled preventive maintenance - All repairs (mechanical, electrical, software) - All replacement parts (batteries, motors, sensors, wheels, etc.) - Software updates and security patches - Sensor replacements (10 per AGV during initial deployment) The only exclusions: - Damage from customer negligence (forklift collision, etc.) - Modifications not approved by Smavoo - Force majeure events

#### 6) What's your geographic coverage for on-site support?

Our headquarters are in Hannover, Germany, and our support team is with you 24/7—wherever you are. We handle worldwide deployments end to end, including shipping and installation, so you don't have to juggle logistics. Need help fast? Remote support is always on, and when on-site service makes more sense, our trusted partner network steps in, with response times that vary by location. We keep parts stocked at regional hubs in Germany to minimize downtime. And in the planning phase, we'll travel to you anywhere in the world for a flat €9,950 - simple, transparent, no surprises.



#### 7 How quickly can we add more AGVs if we need to scale?

From order to operation in just 8–16 weeks — no new planning phase required. The system uses your existing infrastructure, with sensors and software scaling automatically. Simply notify us via email, phone, or platform. After instant capacity confirmation, your AGV ships within 8–12 weeks and is installed in 2–3 weeks. Billing starts only once it's live. After month 24, you can scale down anytime with 30 days' notice — we remove the AGVs and payments stop.

#### 8 Can we try before we commit?

It all start with the Planning Phase. For a flat €9,950, you get a complete on-site assessment: a clear view of how AGVs will work in your facility, detailed ROI projections, and practical recommendations. There's no obligation to move forward.

#### What we don't do:

- Free trials: AGV deployment isn't plug-and-play.
- Demo units: Your facility is unique; generic demos mislead.

Why this works: 94% of customers who complete the planning phase proceed to full deployment. The planning data proves ROI before you commit, so you're making a smart decision, not a hopeful guess.

