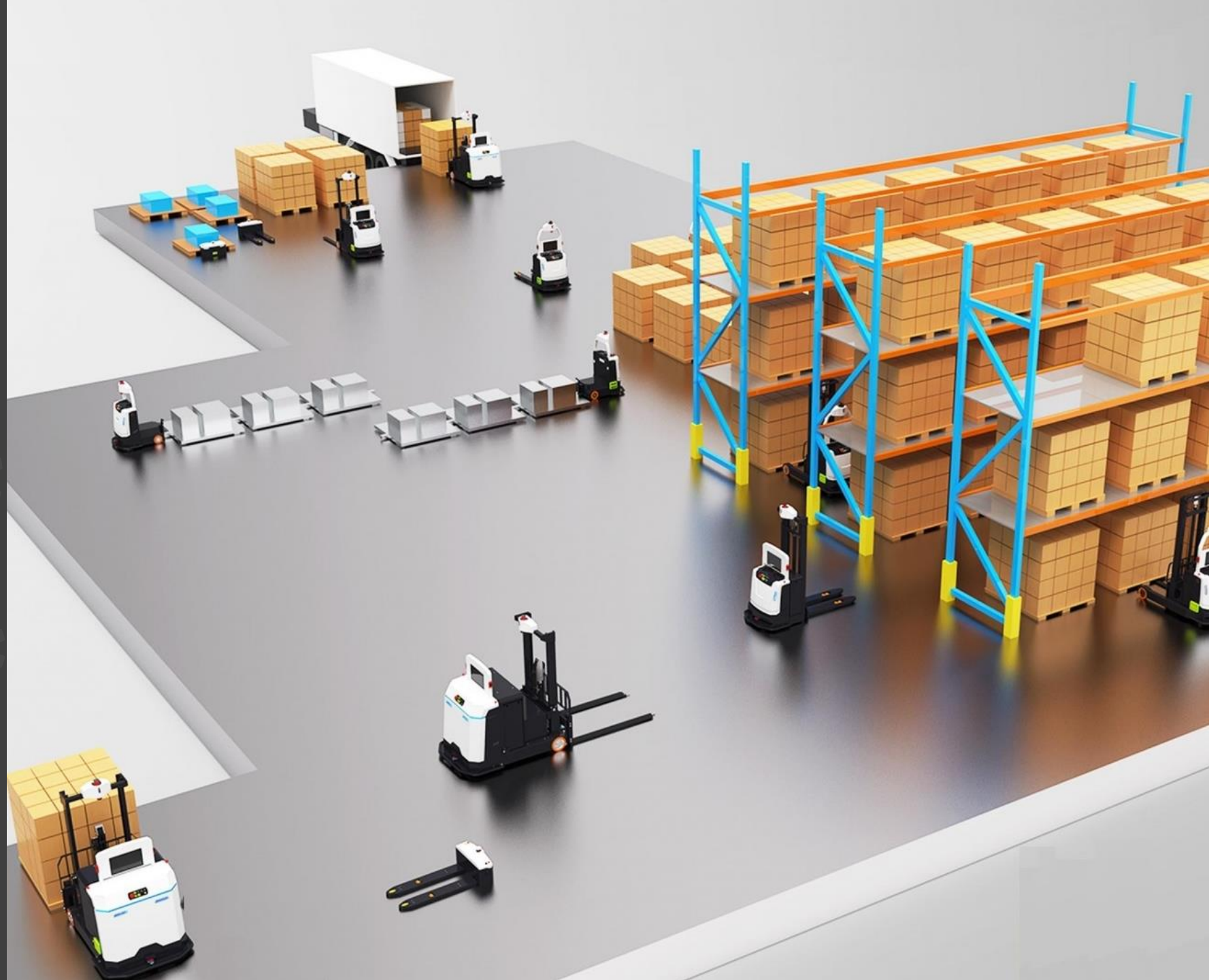
# ROBONETICS

# AUTONOMOUS MOBILE ROBOTS



# ❖ About ROBONETICS

ROBONETICS
AUTOMATION SOLUTIONS LLP

## ➢ HISTORY :

Technologies was established in 2018 and has already taken a significant place across World. Our company able to System Integration of Yaskawa, UR, KUKA, ABB, Fanuc, Nachi, Kawasaki etc.. Nevertheless, we are also affiliated with Hardware supplier. We are currently implementing heavy industrial solutions for companies which involve stone, metal, foam, wood, ceramics, plastic and glass works in their production line. However, Robonetics focuses not only on heavy industry projects but also on other creative sectors such as education, transportation, media, military industries and robots in public areas.

## SERVICES

Solutions

Robotics Training

Robotics Solutions

# ❖ Vision & Mission

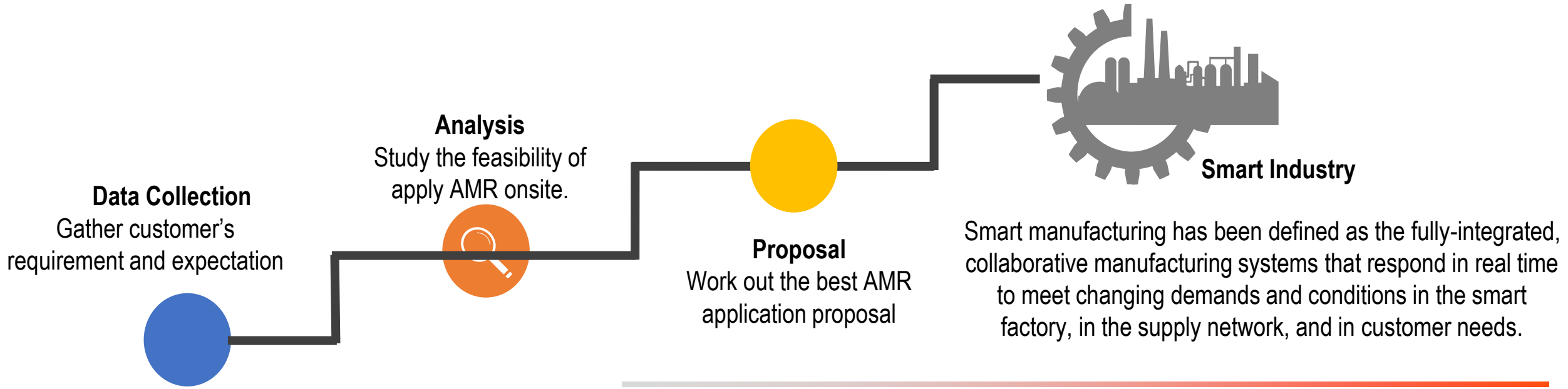
ROBONETICS
AUTOMATION SOLUTIONS LLP

## ➢ Vision

To Become a Trusted SMART Factory Integrator for our clients by providing competitive advantage by designing and delivering world-class distribution and production solutions.

## ➢ Mission

Constantly deliver premium quality, innovative robotic solutions, superior support, and a prodigious customer experience, such that our employees thrive, and our customers are completely gratified.



# ❖ Team

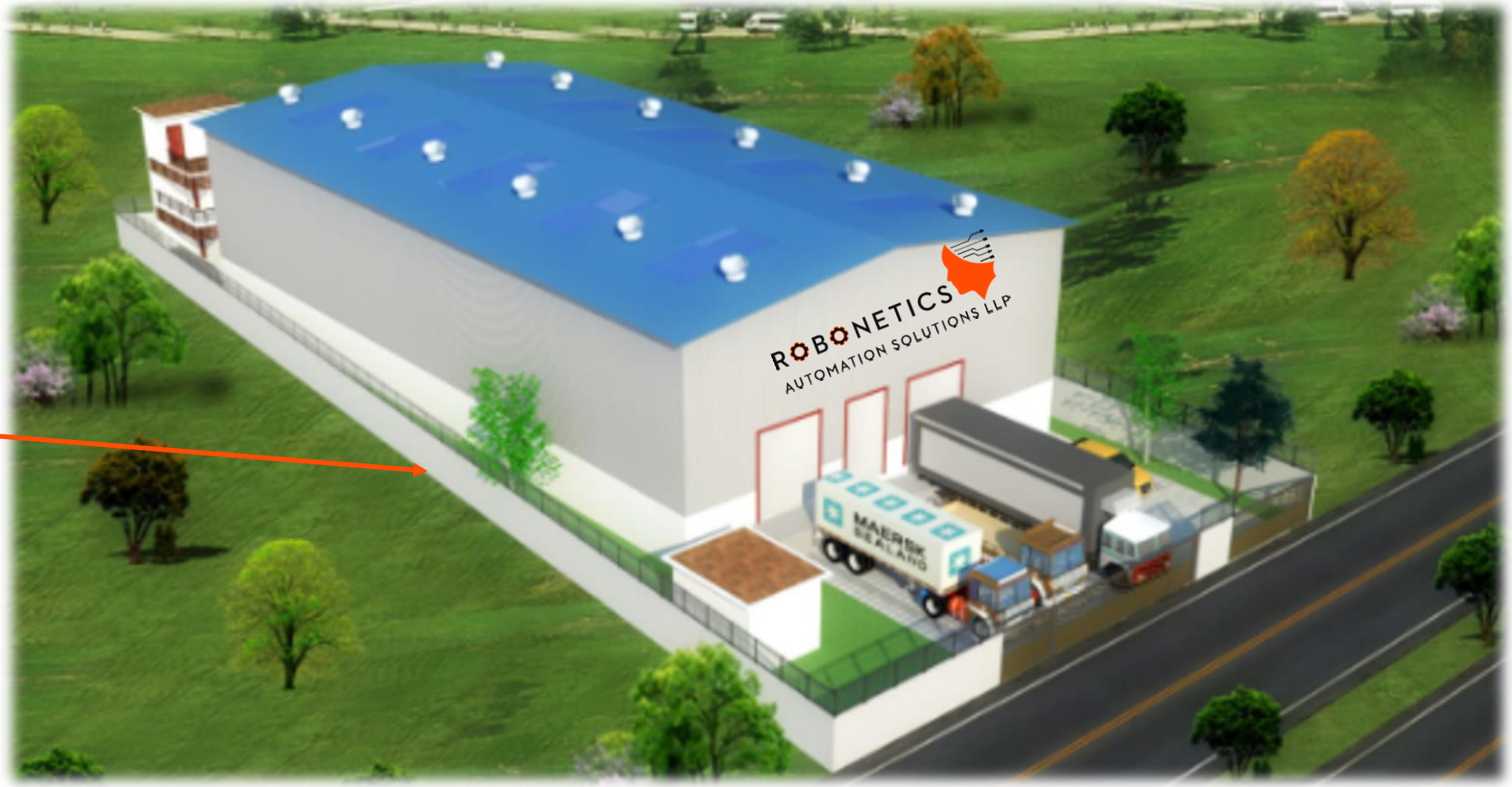
ROBONETICS
AUTOMATION SOLUTIONS LLP

| Designation | Name | Expertise |
|---|---|---|
| Director – Product Design | Chandrashekar. V | Design Software, Automation and Machine Building |
| Director – Sales & Projects | Prasanna. V | Machine building and Architecture development for robots |

25 Plus Trained and Experienced Engineers comprised of Design team, Assembly Team, control Engineers – PLC, AMR, vision dedicated to each model of AMR.

# ❖ Our Service Locations

ROBONETICS
AUTOMATION SOLUTIONS LLP

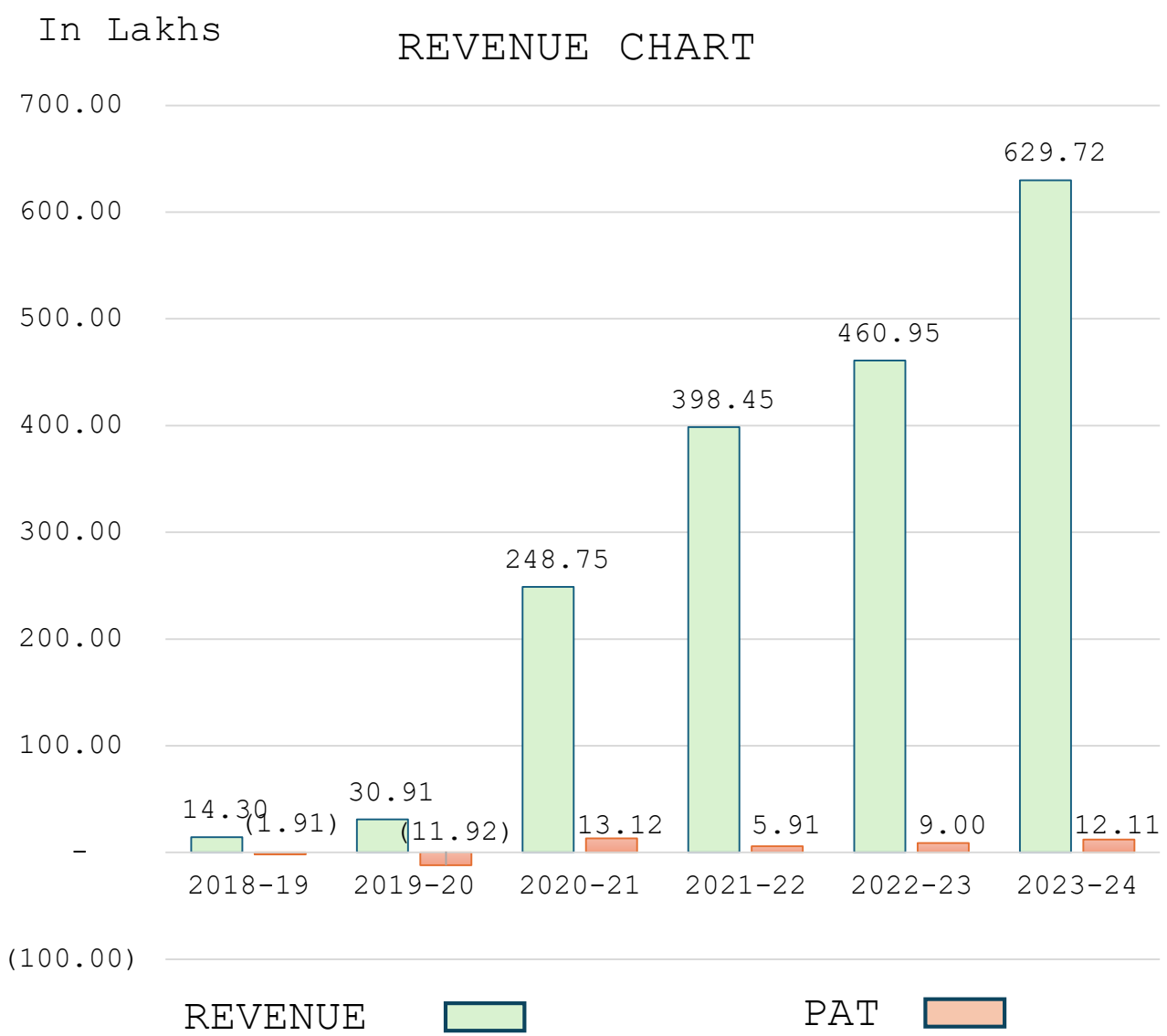


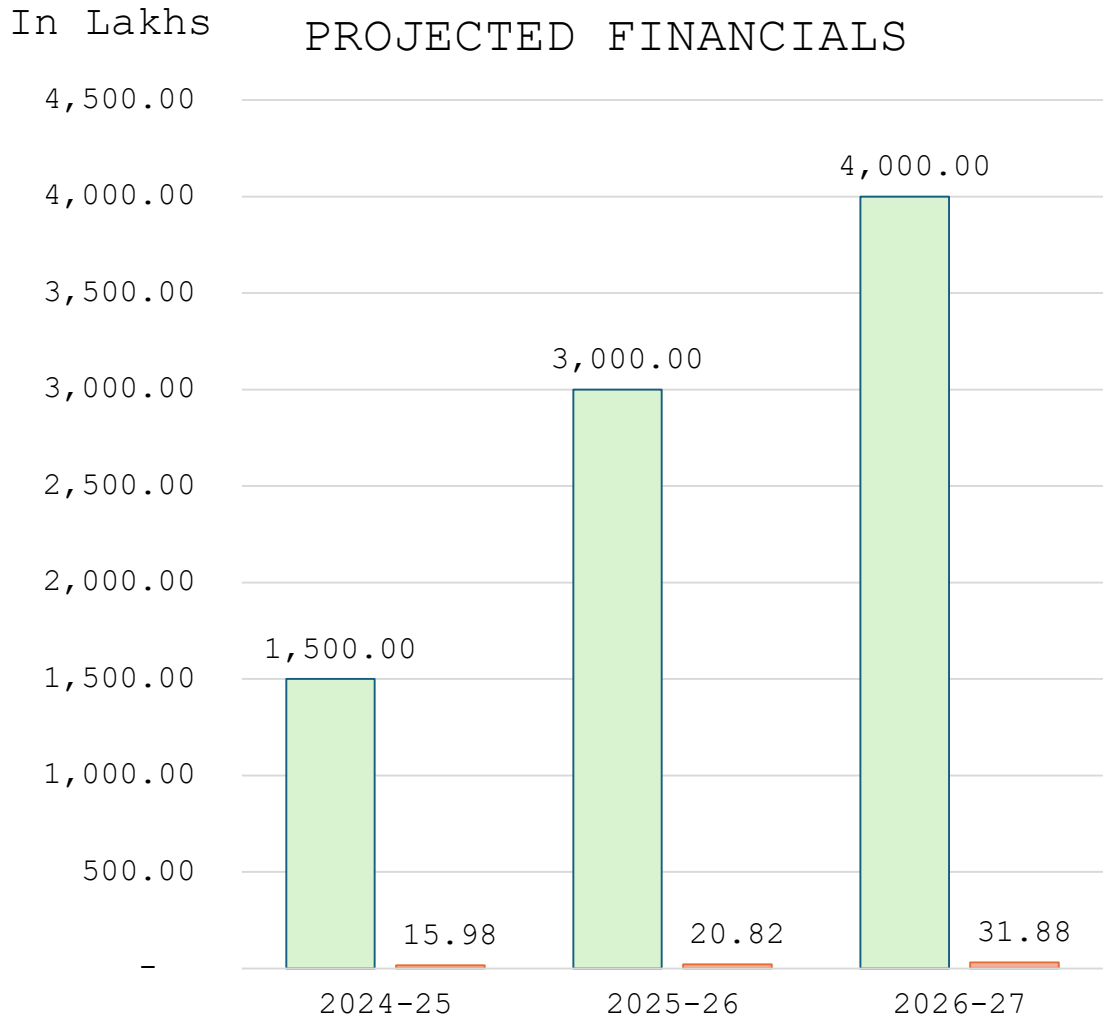
# ❖ Our Clientele

ROBONETICS
AUTOMATION SOLUTIONS LLP

- India
- Singapore & malaysia
- Dubai - MENA
- USA

# ❖ Business Revenue



# ❖ Organization

ROBONETICS
AUTOMATION SOLUTIONS LLP

**Prasanna**
**Partner**
Sales & Networking

**Chandrashekhar**
**Partner**
Projects & Design

**Sales & Marketing**
Engineer - 3

**Manager**
2 Project Manager

**Controls Team**
PLC & Robotics
Engineers - 5

**Software**
AGV & Vision
Engineers - 7

**Design Team**
Robot & AGV
Engineers - 8

**Execution team**
Robot & AGV
Engineers - 3

**Operations**
Accounts & HR
Accounts, HR & Admin - 4

# ❖ Why Robonetics

ROBONETICS
AUTOMATION SOLUTIONS LLP

## Stronger

1000 - 6000 KG

## Taller

100-8000mm

## Sharper

10mm Accuracy

## Features

*Pallet Recognition *3D Safety
*Auto charging

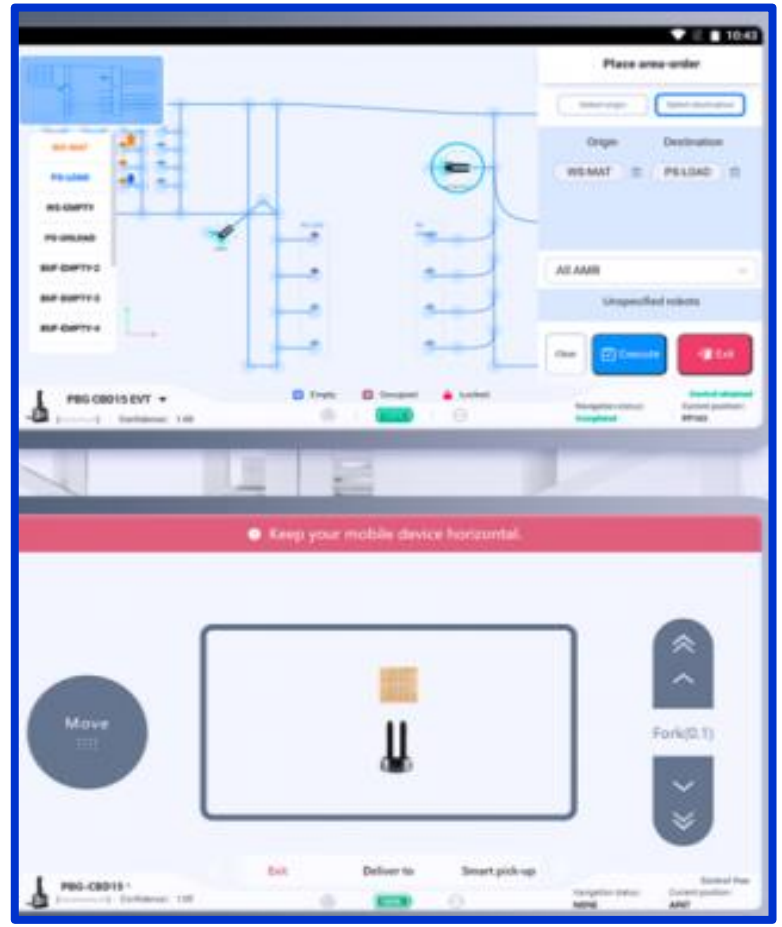
## Third Party Integration

*SAP / ERP *Cargo Lift
*Conveyors *Robots

# ❖ Current Industrial Scenario for Material Handling

ROBONETICS
AUTOMATION SOLUTIONS LLP

| 90% of Industry Handling | Manual Process | Digitalization of Industry |
|---|---|---|

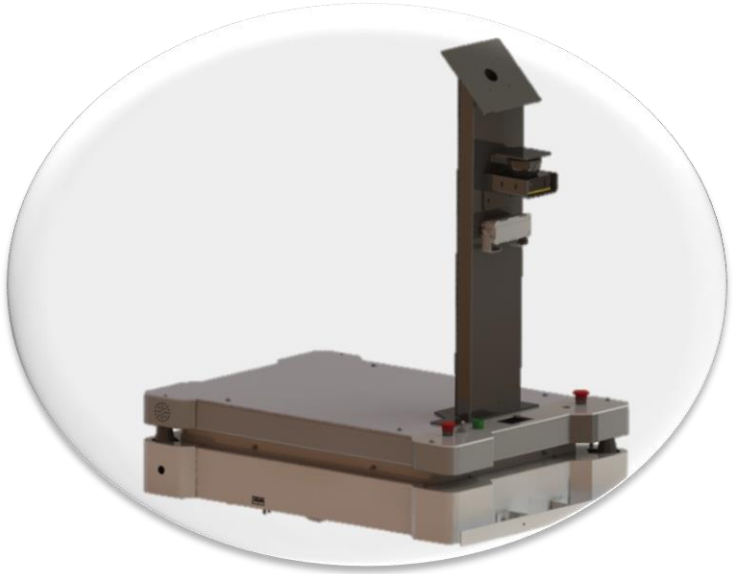



**AMR in market Does not suit for a current Pallet or Bin**

# ❖ Product

ROBONETICS
AUTOMATION SOLUTIONS LLP

## Jack Type Series



Payload – 500 KG to 3000 KG

Application – Towing, Lifting & Rotating

## Pallet Mover AMR Series

Payload – 1 to 6 ton

Lifting Height - 1 to 6 meter

## PT Series – Pallet Truck AMR

Payload – 1 to 6 ton

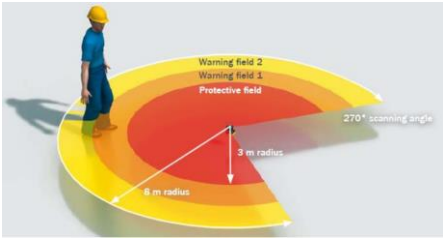
Lifting Height – 1 to 6 meter

# AGV safety character

ROBONETICS
AUTOMATION SOLUTIONS LLP

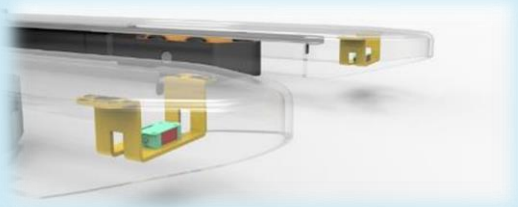
◆ **Laser anti-collision**

Cover all the areas of the AGV running direction. When the worker goes into some safety range (0-5m, adjustable),the safety protection would be triggered. The AGV would stop. When the worker leaves, the AGV would return to the normal operation.



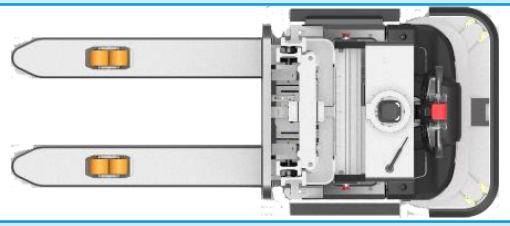

◆ **Photoelectric anti-collision**

It is installed on the AGV fork tip. AGV would stop once the distance value is reached between the AGV and the object. When the object is removed, AGV would return to the normal operation



◆ **Mechanical anti-collision**

The AGV is equipped with mechanical anti-collision strips for multiple safety protection



◆ **Audible and visual alarm, emergency stop button**

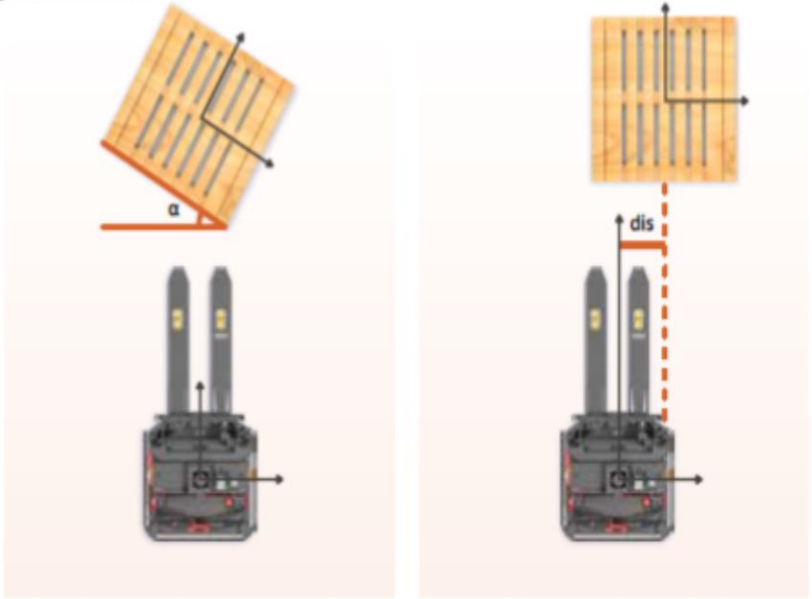
AWhen the AGV is driving, the warning music will be played and the warning light will flash continuously to remind workers to avoid in time. The effects of warning music and warning light are also different in different states of AGV.

ROBONETICS
AUTOMATION SOLUTIONS LLP

# Precise Forking and Load Recognition

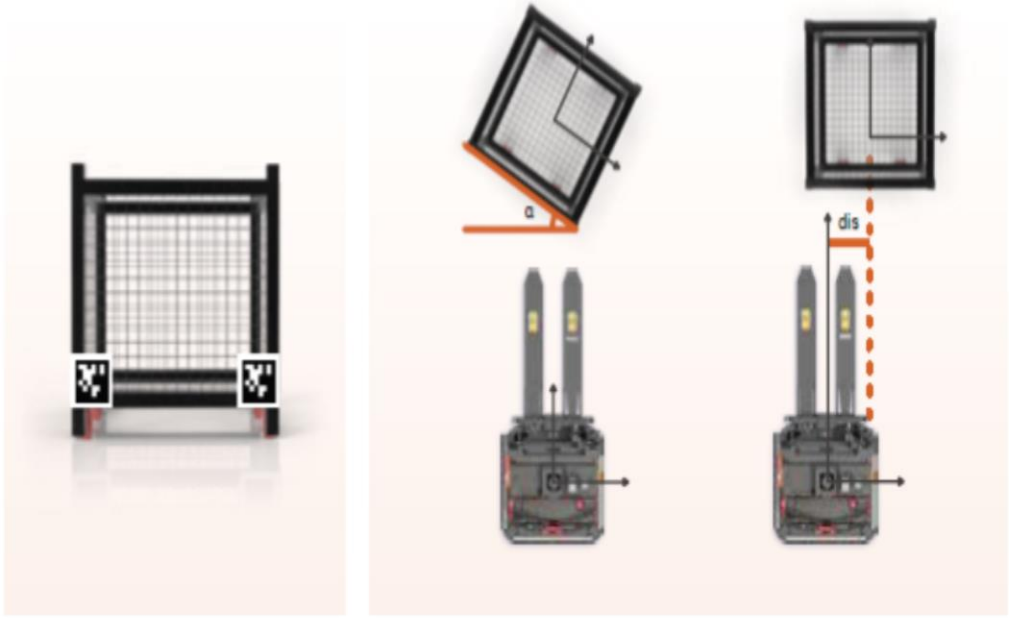
## Pallet Recognition

When the mechanical limit cannot be added to the ground, the advanced pallet recognition function can be configured, and for scenes with pallet angle deviation within ± 30°and position deviation within ± 30cm, the forked pallet can be accurately adjusted through identification.




## Cage Recognition

When the mechanical limit cannot be added to the ground, the advanced cage recognition function can be configured. Fix the QR code for recognition and location on the forking surface of the cage, and it will detect the position deviation of the cage through the camera, so as to realize recognition, correction and precise forking.



# ❖ Smart Charging & Indication

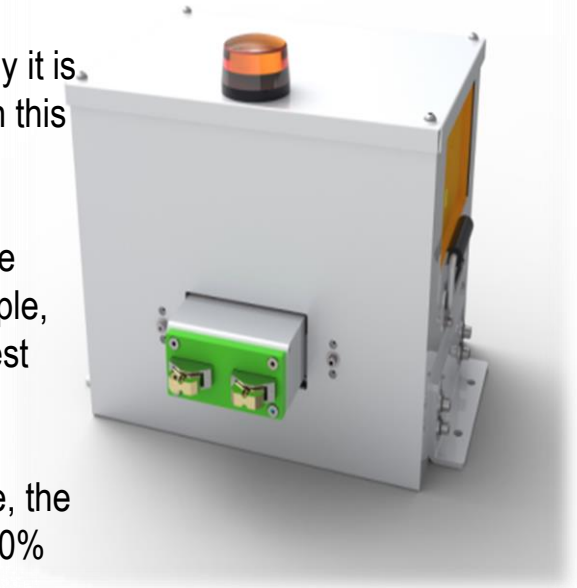
ROBONETICS
AUTOMATION SOLUTIONS LLP

- **Low battery value setting：** When the battery volume is lower than the setting value(usually it is 20%,adjustable), the AMR would not receive the new task (the proceeded task would be finished) and would charge automatically at the charging station until the setting minimum value without receiving any task in the period. If the charging station is occupied, the AMR would wait in the resting position unit the charging station is available.

- **Charging value setting**: In the charging process， if the AMR battery value is lower than one number（Usually it is 60%, adjustable)， the AMR would charge without receiving the new task. When the AMR power is higher than this threshold (60%), if a new task is released, the AMR will stop charging and accept and complete the new task.

- **Normal power threshold setting：** Normal power threshold setting: if no new task is released during the whole autonomous charging process, the AMR will charge until the power is higher than a certain threshold (for example, 90%, this value can be configured), and then stop charging. After the AMR stops charging, it will return to the rest position and wait for the release of a new task.

- **Maintenance and charging**: when the battery power reaches the specified charging times or time (for example, the specified charging reaches 100 times or weekly and quarterly), the system forces the AMR to fully charge to 100% and continuously supply power for more than 3 hours.。



- **Charging Type:** Automatic & Induction Charging
- **Charging time:** 2 Hours if it is Automatic Charging

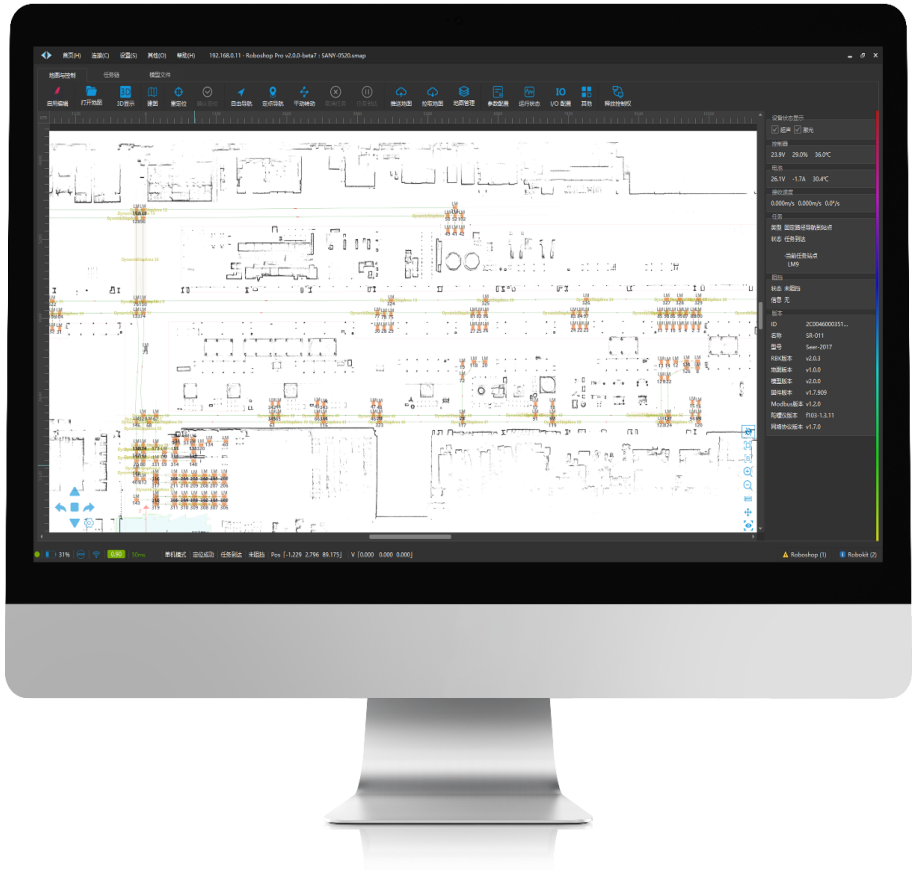
**Battery time :** 6 to 8 Hours
**Battery Life :** 1500 cycles, 1 Year Warranty
**Battery Type :** LifePo4

# ❖ Smart Controlling & Monitoring

ROBONETICS
AUTOMATION SOLUTIONS LLP

➢ **One-stop implementation  flexible and convenient**

- Rich Function Tips
- Smart Map Editing
- Robust network communications
- powerful configuration systems
- One-stop robot calibration, mapping, navigation, configuration, monitoring and other visual operations



# ❖ Smart Connectivity

ROBONETICS
AUTOMATION SOLUTIONS LLP

### ➢ Introduction of Multi-machine dispatch system

Provides a multi - machine scheduling software, multi - machine collaborative work and MES seamless docking. Achieve multi-vehicle scheduling, planning, traffic control.

### ➢ Machine Collaboration

Can guide any robot using our controller to work together, no matter what it is, a forklift, a handling robot, or a composite robot.

### ➢ Optimal Planning

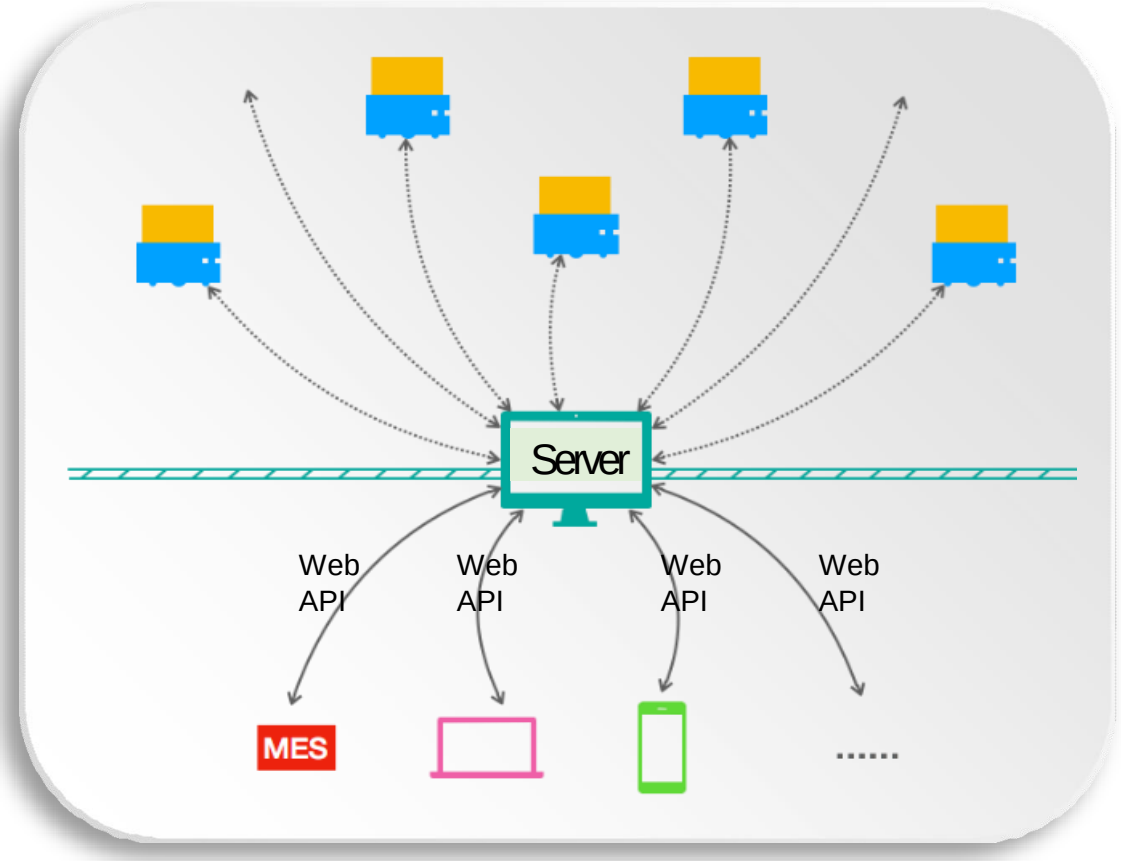
Automatically select the most suitable robots to perform tasks and carry out path planning and traffic control in the entire plant environment.

### ➢ Seamless Docking

Provide concise Web API network protocol, seamless docking with MES, WMS and other systems.

### ➢ Easy operation

AMR tasks can be adjusted and modified in a very short time



# ❖ Material Handling Solutions

ROBONETICS
AUTOMATION SOLUTIONS LLP

## Cabin Handling

## Sub Components Handling

AGV with Karakuri Bin Handling

## Dolley Handling

AGV with Cobot

# ❖ Material Handling Solutions

ROBONETICS
AUTOMATION SOLUTIONS LLP

## Lead Pallet Handling

Pallet Handling

Engine Handling

Tyre Handling

## Motor Casing Handling

Assembly Handling

# ❖ Material Handling Solutions

ROBONETICS
AUTOMATION SOLUTIONS LLP

## 1] AGV /AMR – Jack Type

| Technical parameter | Detail |
|---|---|
| • Model | **Box / Piggyback Type** |
| • Navigation mode | Magnetic Strip / Laser navigation |
| • Vehicle dimension | 1540mm to 2250（L）*989mm（W）*250mm（H） |
| • Application | Lifting, Towing, Assembly Operation |
| • Payload | 500 Kg to 3000 Kg |
| • Lifting Height | 60 mm |
| • Drive mode | Differential speed |
| • max load | 500-3000Kg |
| • the minimum turning radius | 1200-12700mm |
| • Rotational Diameter | 1000mm to 2500mm |
| • Charging mode | Manual /automatic/ Induction |
| • Battery | 48V/24Ah to 150ah depends on payload Lithium iron phosphate |
| • Climbing capability | 4（unload，unit：%）/1（full load，unit：%） |
| • Communication mode | Wifi（2.4G/5G Dual frequency WIFI Or operator 5G） |
| • Application | **Jack, Lifting, Assembly, Towing** |

ROBONETICS
AUTOMATION SOLUTIONS LLP

## 2] Pallet Mover

| Technical parameter | Detail |
|---|---|
| • Model | **PALLET MOVER （ Heighten mast)** |
| • Navigation mode | Laser navigation |
| • Vehicle dimension | 1475mm （L） *735mm （W） *480mm （H） |
| • Fork dimension | 1154mm （L） *186mm （W） *60mm （Sickness） |
| • the outer width of the forks | 570mm |
| • the fork height （the lowest level） | 86mm |
| • Drive mode | Differential speed |
| • max load | 1000/1500 Kg |
| • the max lifting height | 156mm |
| • the minimum turning radius | 1000mm |
| • Width of the aisle | 2000mm |
| • Charging mode | Manual /automatic （with the automatic charging station） |
| • Battery | 48V/24Ah Lithium iron phosphate battery |
| • Climbing capability | 4 （unload， unit ： %） /1 （full load， unit ： %） |
| • Communication mode | Wifi （2.4G/5G Dual frequency WIFI Or operator 5G） |

ROBONETICS
AUTOMATION SOLUTIONS LLP

## 3] Pallet Stacker

| Technical parameter | Detail |
|---|---|
| • Model | **PALLET STACKER （ heighten mast)** |
| • Navigation mode | Laser navigation |
| • Vehicle dimension | 1640mm （L） *989mm （W） *2060mm （H） |
| • Fork dimension | 1150mm （L） *186mm （W） *55mm （Sickness） |
| • the outer width of the forks | 570mm |
| • the fork height （the lowest level） | 86mm |
| • Drive mode | Differential speed |
| • max load | 1000-5000Kg |
| • the max lifting height | 1000-6000mm |
| • the minimum turning radius | 1200-1700mm |
| • Width of the aisle | 2000-2500mm |
| • Charging mode | Manual /automatic （with the automatic charging station） |
| • Battery | 48V/24Ah Lithium iron phosphate battery |
| • Climbing capability | 4 （unload， unit ： %） /1 （full load， unit ： %） |
| • Communication mode | Wifi （2.4G/5G Dual frequency WIFI Or operator 5G） |

# ❖ Projects details

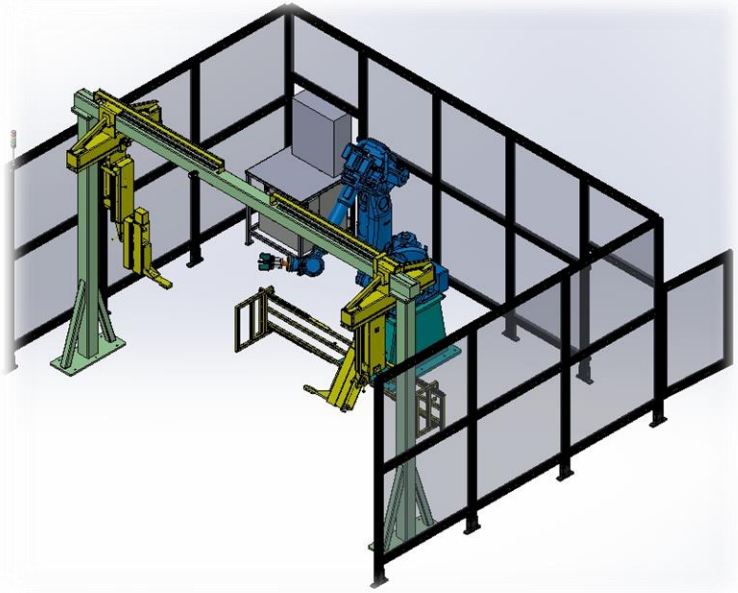
ROBONETICS
AUTOMATION SOLUTIONS LLP

## Sealant Application

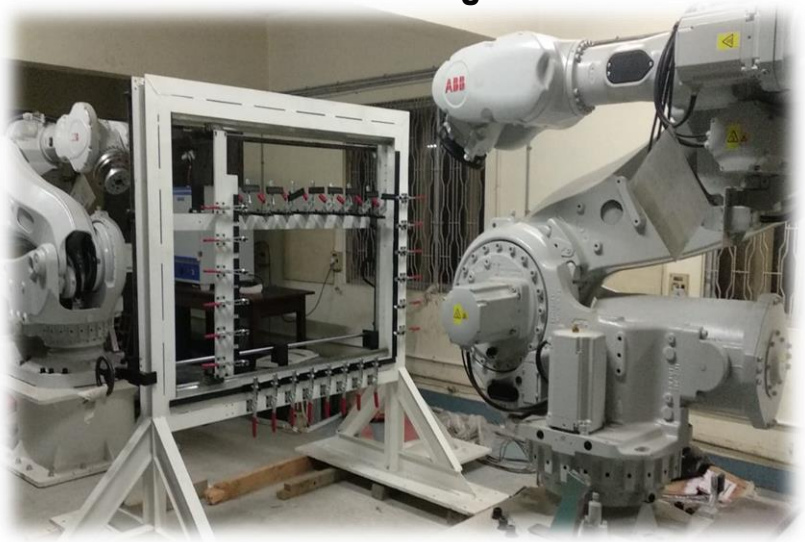
## Ingot Pick and Place

## Spray Paint

## Robotic Tractor Gear Endurance testing

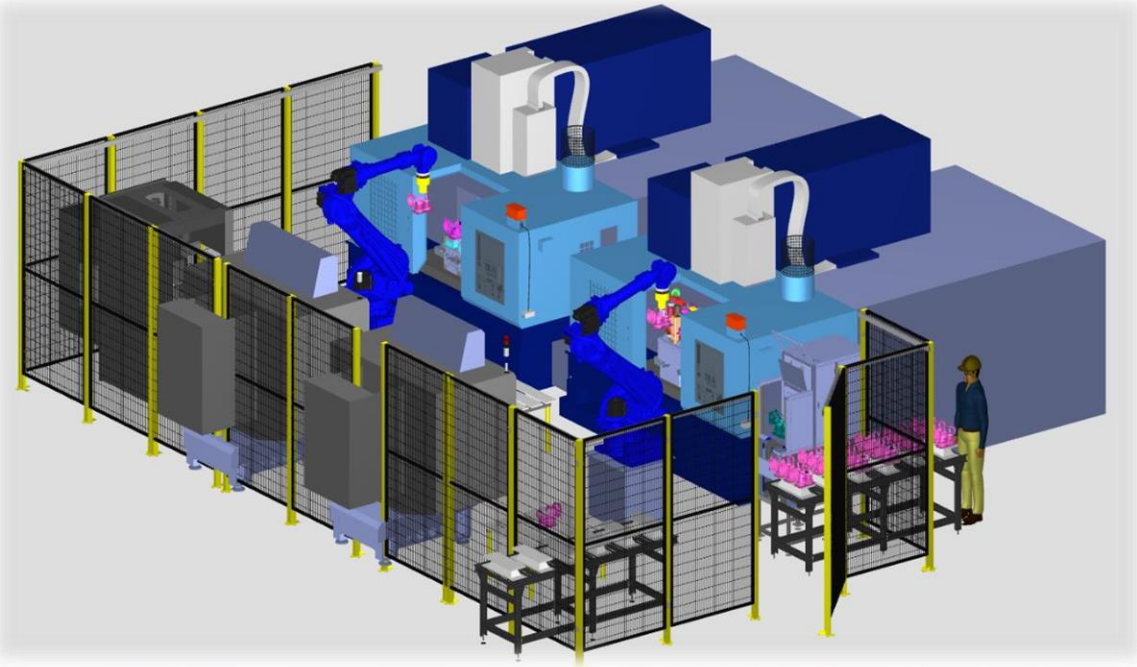


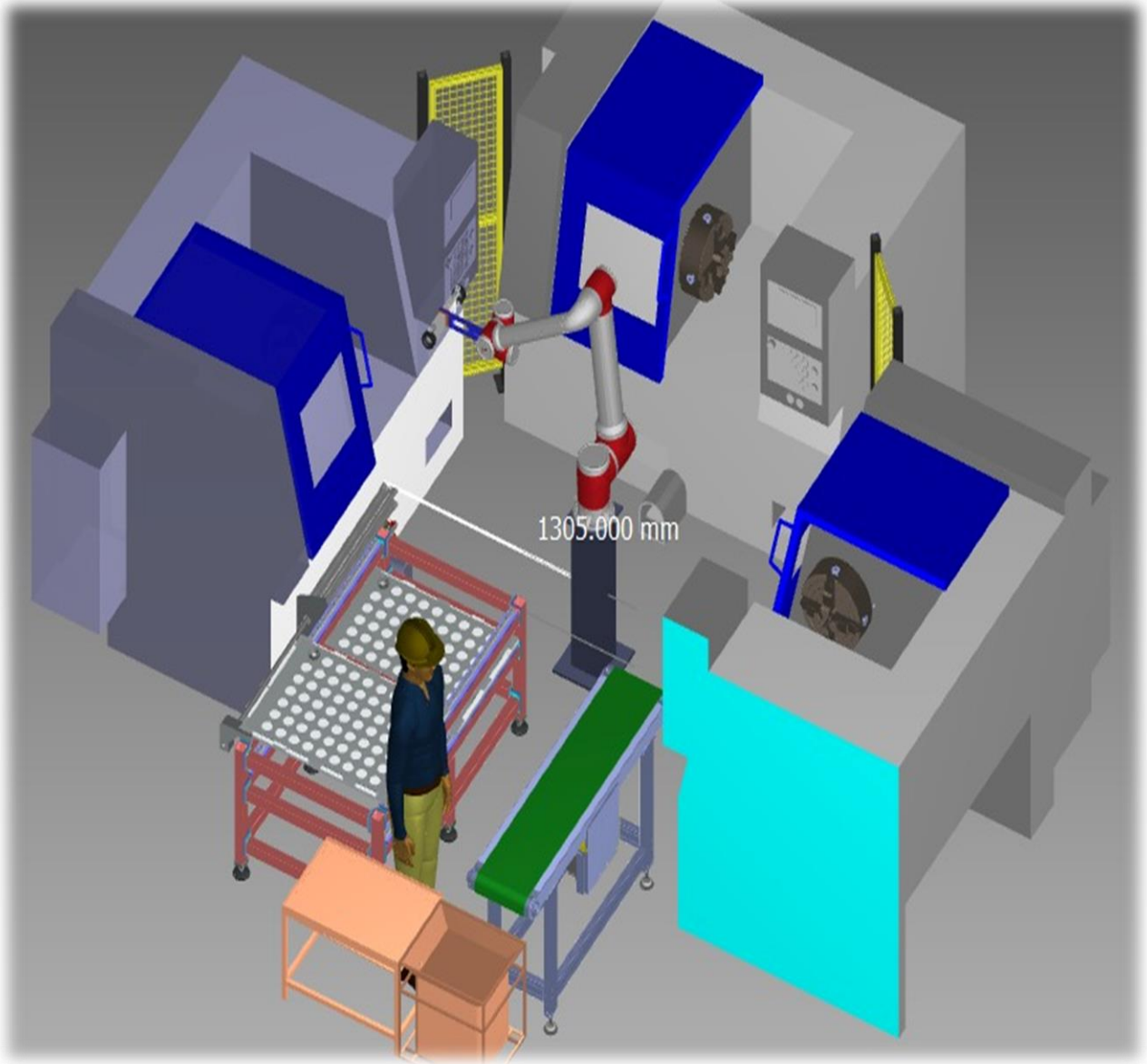
## Robotic Forming



# ❖ Projects details – Machine Tending

ROBONETICS
AUTOMATION SOLUTIONS LLP





# ❖ Projects details

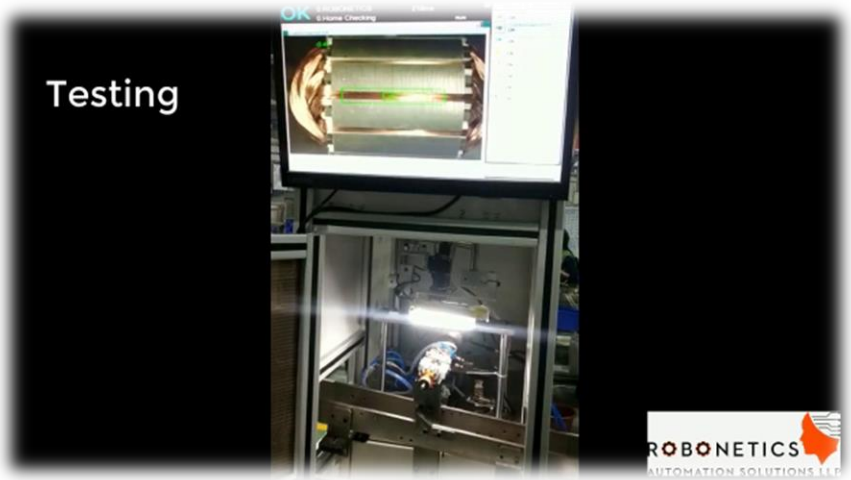
ROBONETICS
AUTOMATION SOLUTIONS LLP

## Vision Based Pail Inspection – Asian Paints

Vision based Bobbin Pick and Place - SRF

## Bolt Inspection - Caterpillar

## Motor Inspection - Philips

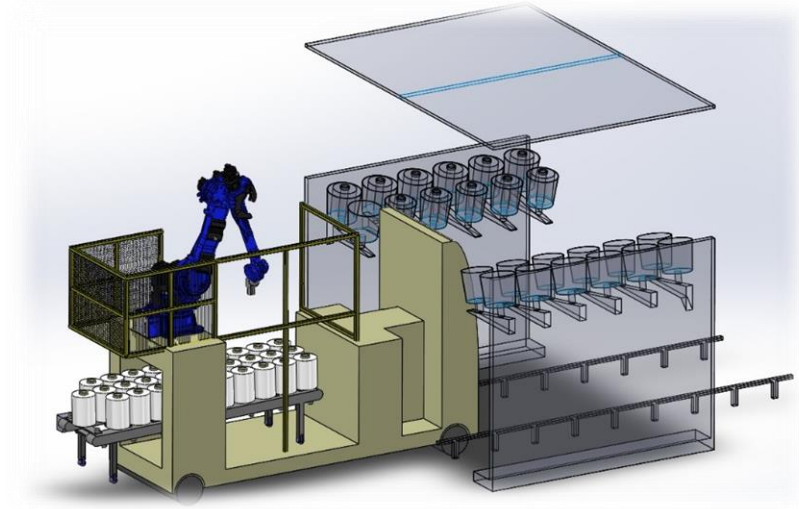


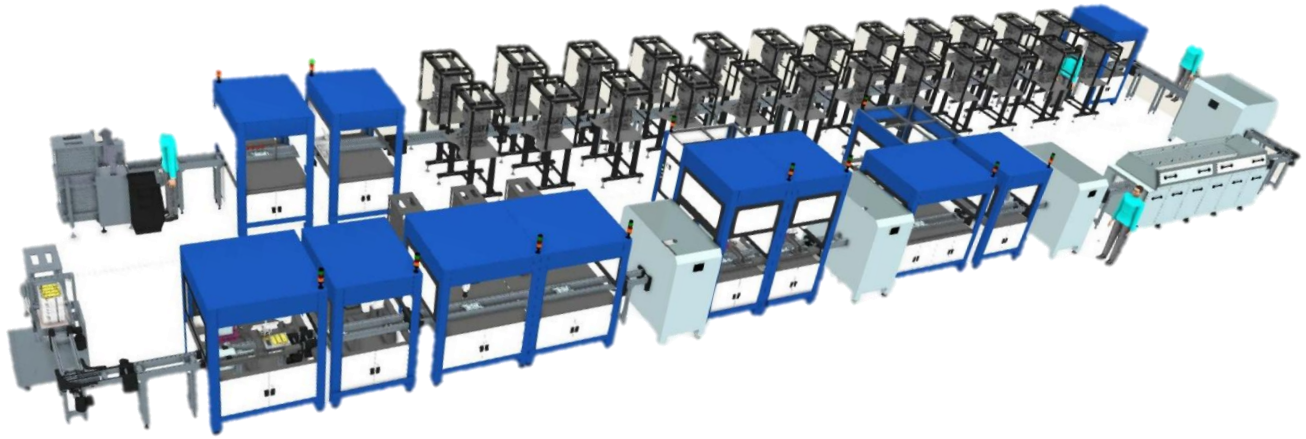
Mobile Phone Testing using Vision - Foxconn

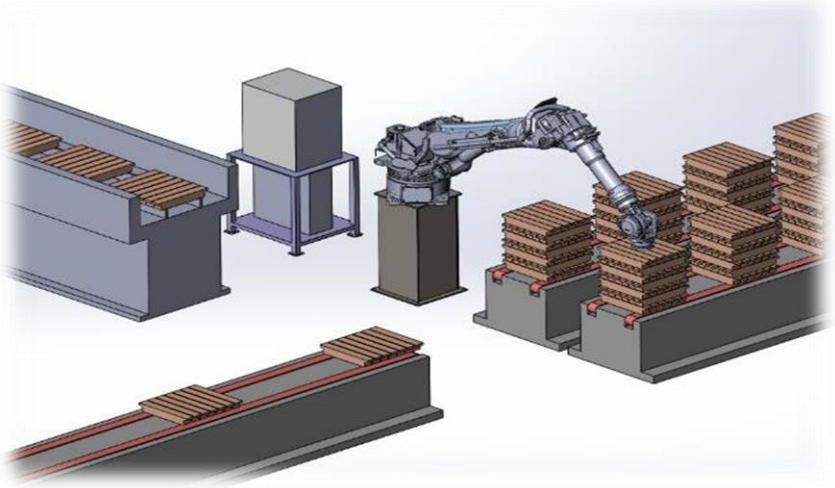
# ❖ Projects details

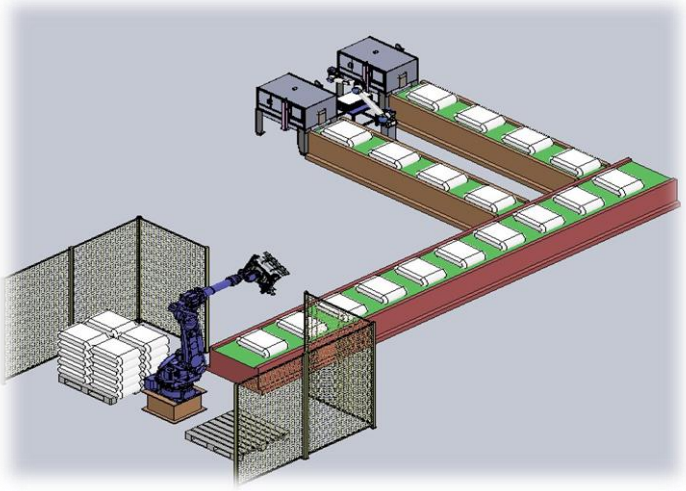
ROBONETICS
AUTOMATION SOLUTIONS LLP

## ❑ Simulation and Consultant Support









# ❖ Project Launch & Recognition

ROBONETICS
AUTOMATION SOLUTIONS LLP

## Tamilnadu industrial minister Recognition

Defence team Recognition

Tamilnadu Chief minister Recognition

# ❖ Our Valuable Partners

ROBONETICS
AUTOMATION SOLUTIONS LLP

TOMITA

HIKROBOT

APEXIZ
WE OPTIMIZE YOUR IDEAS

KUKA

YASKAWA

FANUC

DELTA

# Major Clients and Deployments

ROBONETICS
AUTOMATION SOLUTIONS LLP

# ❖ Contact us

ROBONETICS
AUTOMATION SOLUTIONS LLP

Robonetics - Innovating Intelligence

## Get In Touch

**Chennai : Robonetics Automations Solutions LLP**

S.No 91 Annasalai, Nagelkeni, Chrompet, Chennai - 600044.

**Hosur : Robonetics Automations Solutions LLP**

S.No.582/1, Plot No.62-A, Govinda Agraharam Road, Rajaji Layout, Spicot, Hosur, Tamil Nadu 635126.

**Mail us :**

info@roboneticssolutions.com,
sales@roboneticssolutions.com

**Call us :**

+91 6379 582 983, +971 56 195 2902

## Sales Contact

**Mumbai :**

Unit No. A/4, Elite Industrial Estate, Bapane, Juhuchandra, Near SICK Sensor Ware House, Naigaon, Dist Palghar - 401208.

**Mail us :**

mumbai@roboneticssolutions.com,
sales@stwworld.com

**Call us :**

+91 9324 346 684, +91 8433 876 684

# Thank you

ROBONETICS

AUTOMATION SOLUTIONS LLP