



# Marvelmind Robot v100

An autonomous delivery robot for smart warehousing and industrial applications

Up to 100 kg payload  
>16h drive time  
\$3,990

# Idea

- Fully autonomous, economically viable, and safe delivery robot of small-size goods for warehouse, retail and industrial applications
- Flexible, modular and pragmatic approach
- Predictable and reliable delivery from point A to point B just in time
- Reduced dependence on labor



# Problem to solve



- Usual autonomous guided vehicles (AGVs) are bulky, expensive, complex to integrate and rather dangerous to use. If an AGV is not expensive, then it is, usually, very inflexible in terms delivery routes (magnetic wires on the floor)
- **Many companies simply don't find it economically viable to employ advanced AGVs => market remains unserved and untapped**

# Solution: Autonomous Delivery Robot



# Key benefits of Marvelmind Autonomous Delivery Robot



## Fully autonomous delivery:

- Navigation and collision avoidance based on combination of Indoor “GPS” and several other systems and sensors. Solid and reliable autonomous delivery of cargo from point A to point B

## Cost efficient solution by design with little or no integration cost:

- Inexpensive Indoor “GPS” + IMU + odometry + optical for navigation and positioning instead of costly LIDARs
- Multiple inexpensive 1D LIDARs as proximity sensors collision avoidance and safety
- No expensive 3<sup>rd</sup> party elements, no 3<sup>rd</sup> party SW or licenses or IP – only inhouse solutions

## Small size and modular architecture:

- Simple and very customizable frame (“Ikea style”) with possibility to choose between different shelves structure in minutes. Optional additional battery capacity. No dangerous fork
- Suitable for different robot’s height/width/length and cargo boxes/baskets’ sizes

# Use cases

## Warehousing:

- Hassle-free delivery of goods between different parts of the warehouse or between storage areas and loading/unloading/assembly areas. Reliable and fast goods delivery from point A to point B, C, D, etc. An assisting person puts loaded baskets or boxes into the robot, press a single physical button B for address B and the rest of inhouse delivery is done fully automatically by the robot

## Industrial applications:

- Just in time and reliable delivery on assembly plants (automotive industry, factories, hospitals, chemical or pharmaceutical plants, food industry, etc.) of small and medium size cargo of different size and shape

# Competition

- Inexpensive
- Versatile
- Light & Safe



- Only partial competition with AGV – more complementary co-existence. AGVs have different capabilities and serve different needs
- Many regular AGVs players: Kuka/Swisslog, Egemin, AGVE, Ward, JBT etc. Relatively few established competitors in autonomous delivery robots. Some made for own usage only (Amazon/Kiva)
- Very little real competition in small-size delivery robots
- Price and complexity of the total solution is the decisive factor for adoption

Bulky

Dangerous

Expensive



**Price:** as low as 3,990 USD instead of 40,000-100,000 USD for regular AGV – **10-20 times less expensive**

**Size:** much smaller and more versatile than regular AGV – **human size or smaller**

**Usage:** can be used where regular AGVs are simply not viable

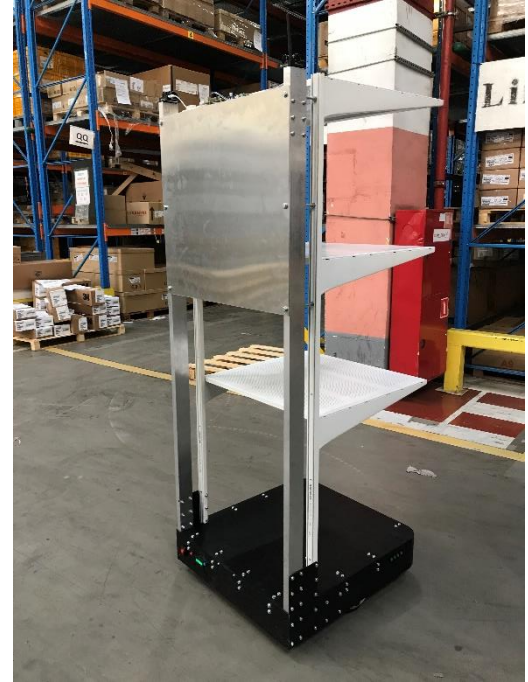
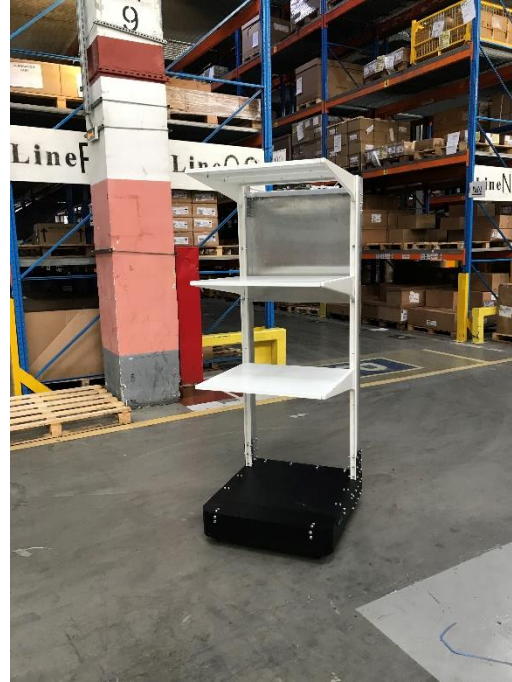
# Autonomous delivery demo video



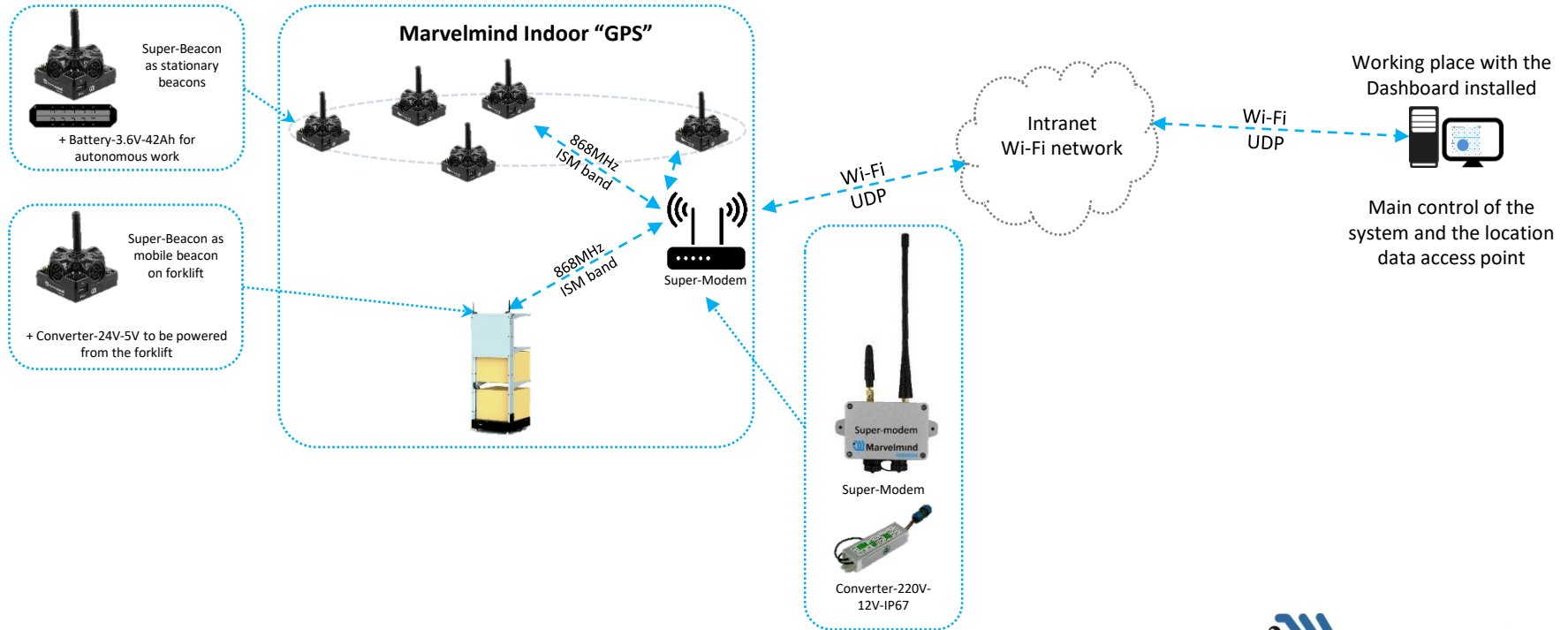
<https://youtu.be/efOc-ItVvgg>



# Robot in the warehouse



# Marvelmind Robot v100 + Indoor “GPS”



# Thank you!

## Marvelmind Robotics

Marvelmind Inc.  
1111 W El Camino Real #109-365  
Sunnyvale CA  
94087  
USA

Marvelmind OÜ  
Ahtri tn 12, Kesklinna linnaosa,  
Harju maakond,  
Tallinn, 10151  
Estonia

Marvelmind2 LLC  
Skolkovo Innovation Center  
Lugovaya str., 4 bld 5 room 17  
Moscow, 143026  
Russian Federation

[info@marvelmind.com](mailto:info@marvelmind.com)

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