

MiR | A Better Way to automate your internal logistics



Ziv Sadeh SU-PAD VP Sales & Marketing



Haim Zeherman SU-PAD Robotics Project Manager



Fernando Fandiño Oliver MiR Sales Director Southern Europe & MEA



Diana Davoyan MiR Sales & Marketing Supporter

MiR

Expectations

- Webinar duration: 45 minutes + 15 minutes for Q&A
- Please Mute microphone and Close video
- Please write questions in English inside the chat
- Focus on topic
- No long discussions





Agenda

- About MiR & SuPad
- Today's Internal Logistics
- Market Needs
- MiR Products & MiR Go Solutions
- How It Works?
- Applications & Case studies









SU-PAD Company

SU-PAD was established in 1987 by Pini Sadeh and David Cohen, to provide high-end equipment and innovative solutions, to the Israeli industry.

For over 30 years, SU-PAD has been innovating and implementing advanced solutions in 4 different divisions, which allow its customers to enter the market quickly and compete with a relative advantage, alongside the world's leading brands and by constantly improving

alongside the world's leading brands and by constantly improving the professionalism, quality and service.







MiR – Mobile Industrial Robots

MiR Highlights:

- 230+ employees focused on rapid development and growth:
 - ▶ 35% in R&D
 - ▶ 30% in Sales & Technical Support
 - 20% in Production
 - ▶ 15% in supporting functions
- 100 new employees hired last 12 months
- Born global: 176 distributors in 50 countries
- Local presence: Offices in New York, San Diego, Barcelona, Shanghai, Tokyo, Frankfurt, Singapore and Japan.
- Award-winning technology: Winner of multiple international renowned awards





Timeline



World's Collaborative Hub

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Internal Logistics So Far

Today internal transportation is usually done by:

- Manned forklifts
- Usage of special designed trolleys or racks
- Static conveyor systems
- AGVs



Internal logistics consume large amount of resources that do not contribute directly to your value creation



MOBILE INDUSTRIAL ROBOTS





Market Needs







Automating Internal Logistics

AMR vs AGV



AMR - Autonomous (collaborative) Mobile Robot

- Trackless, autonomous navigation
- Travels safely around people and obstacles
- Easy to expand/change work area
- Navigates dynamically while planning it's own path and sequence



AGV - Automated Guided Vehicle

- Requires "tracks" e.g. magnetic stripes in the floor or wires
- Stops at any obstacle without possibility to change route
- Expensive and time consuming to expand/change work area
- Restricted to fixed routes and controlled sequence





Solution Overview

SU-PAD Solutions You Can Trust





Market Needs













IFR Predictions

Development in global adoption of AGVs and AMRs



AGVs & AMRs in non-manufacturing environments

Both manufacturing and non-manufacturing environments (e-commerce, 3PL, hospitals etc.) are key markets.

> Expected units installed in total: 481,900 between 2019-2021





Collaborative Operations

Safe and user-friendly collaboration with human colleagues



User-friendly interface

- Easily programmed, with no prior experience needed
- Missions can easily be adapted via tablet, smartphone or pc
- Daily users can summon a robot with one click



Works safely alongside humans

- Safely and efficiently maneuvers around people and obstacles
- Safety stop if someone walks out in front of it
- Complies with relevant safety standards



Improves working environment

- Redeploy human workers for more valuable work
- Reduces work-related injuries













- Sick S300 or Microscan 3 or Nanoscan 3 scanners
- 270 degrees scanning angle
- Response time 70 ms









- Intel[®] D435 Stereo Depth Camera
- Vision up to 1800 mm of height and 114° in front of the robot





All together now

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The robot combines data from its laser scanners and front camera to get an overall picture of its surroundings.

Purple clouds show places the robot cannot move into. They are added around all the nearby objects the robot sees, and the robot has to avoid them.









Market Needs







MiR GO











MiR Fleet







MIRACADEMY

Basic Training >

Get started on your learning journey with these fundamental courses.

20m













Introduction to MiR English

Robot navigation English ENROLLED



Creating your first map English ENROLLED

Adding features to the map English ENROLLED



Advanced Training >

ENROLLED

Deepen your knowledge with more advanced topics.



MiR Fleet setup: best practices

English

ENROLLED



MiR Fleet key features English

ENROLLED



MiR Fleet features plus +





MiR Fleet simulator challenge

English

ENROLLED





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REST API foundations







ROI Calculator



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Robots

Choose your robot based on your needed payload: MiR100, MiR200, MiRHook 100, MiRHook 200, MiR500.

Plant input Specify your plant input

based on input, material handlers per shift, and operation hours.



ROI result

Your ROI result based on the supplied information.



Number of material handlers per shift







Market Needs













































How to start?...Some Keys to Success

Pilot project - focus on the Basics

If you want to jump straight to Advanced, plan on a two-phased approach



Pay attention to culture needs

Initially, plan on simple routes in limited aisleways of the shopfloor, to allow the staff to change their mindset and adapt.



Scope out your project

Time? ROI? Top Module?

~ —
 ✓ —
 ✓ —
 ✓ —





Equipment transferring













Pallet transferring









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Towing Carts











Interfacing with existing systems











Cobot Integration











Transfer equipment to isolated locations











Disinfecting Rooms









Thank You!

Haim Zeherman 052-5-670620 haim@su-pad.com







Q&A

